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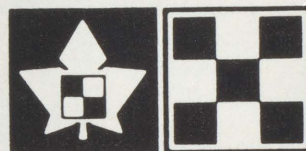


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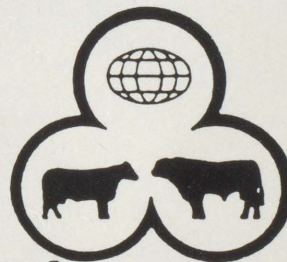
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The QWI

The Quebec Women's Institutes' section of *The Macdonald Journal*, containing information on current activities and up-coming events at the Branch, County, Board, and Provincial levels, may be found on pages 27 to 30.

Cover



Agricultural Economics Chairman, Dr. Randy Westgren, is convinced that every aspect of Canadian agricultural production and marketing must be considered in a global context; thus the foreign and Canadian currency on the cover of our Agricultural Economics issue. This is another original photo especially designed and taken for the Journal by Helen Cohen Rimmer, and we thank her for the colourful introduction to our lead articles. My thanks, too, to Professor Westgren and the other contributors for the Features mentioned above as well as the articles for regular Departments: Mac International and Focus Environment. We learn in the lead article that since 1980 176 graduates have majored in Agricultural Economics. I hope many are subscribers and will find this issue of particular interest. Read with interest, and possibly, relief; all these economists and not one word about the GST!

From the Dean's Desk

Thirty Years of Progress



After the recent collapse of the GATT talks in Brussels one might say that the most formidable problem facing world agriculture is subsidies. This certainly is a monumental problem with which Canada, like all other nations, must deal and one which will certainly receive a great deal of attention from agricultural economists. However, in my view, there is another economic challenge

which is at least as great and which is facing both society as a whole and our agriculture sector in particular. That is not only do we the consumers depend on the agricultural production sector for a continuous supply of nutritious, safe, high-quality appetizing food, but also we depend upon this sector to safeguard our agriculture production capability, our soil and water, for future generations. We cannot nor should we expect our farmers, who represent about three per cent of the population, to continue to carry full economic responsibility for preserving our food production capabilities for future generations.

Our agricultural economists must address this problem so that Canada's farmers not only get a fair return for their produce but also for safeguarding our food production resource base.

What are some of the ways in which this issue can be addressed? In this country and in the United States the concept of transferable tax

credits is becoming a reality in the manufacturing sector as it becomes more and more accepted that protecting the environment is the responsibility of all of society. In this approach to this question may be the concept of transferable tax credits with respect to agricultural production practices that preserve and enhance the quality of Canada's soil and water. A second approach, given that Canadians are all willing to help preserve the environment, might be to develop a pricing system for our food commodities that would indicate how much of the price is going to the protection of the environment, for the producer, the processor, for transportation and for retailing of the product.

Dr. Roger B. Buckland
Vice-Principal, Macdonald College
Dean, Faculty of Agricultural and Environmental Sciences

Journal Jottings



"Have You Subscribed Yet?" asked members of the AESUS of their fellow students. Front row, l to r, Mathieu Sauvé, majoring in Plant Science, Paul Chamberland, in Wildlife. Back row: Alex Venne, President AESUS, and Joël Cormier, Vice-President.

Two firsts for The Macdonald Journal, and I'm delighted with both! Thanks to the ini-

tiative of Jim Murphy, President of the Students' Society, and the members of the Agricultural and Environmental Sciences Undergraduates' Society (AESUS), the Dietetics and Human Nutrition Society (DHNUS), and the Post-Graduate Students' Society (PGSS), this issue is going out to all Macdonald students, courtesy of the Students' Society. Once a student enrolls at Macdonald he or she becomes an important member of the Macdonald community. Membership in this community does not stop at graduation. The ties with Macdonald continue throughout life in friendships, in careers, in the community. Scratch the surface of the area just about anywhere and you are bound to find a Mac connection! The Macdonald Journal can be one of the strongest links in that connection. Do consider a subscription as part of the "Mac package"

you take with you when you embark on a new phase of your life.

We welcome the students as readers of Journal and thank the Students' Society for their support. We also thank members of AESUS for promoting the Journal here on campus.

The other first? The inside pages of the Journal have been printed on recycled paper. The last the price of recycled paper is down to a point where we can use it. Many of you have your Journals for future reference. If you don't, remove the staples and the cover and recycle again.

Hazel M. Clarke
Editor, The Macdonald Journal

Whither and Whence of Agricultural Economics at Macdonald

Professors H. Garth Coffin and
Andy Westgren
Department of Agricultural Economics

The Department of Agricultural Economics at Macdonald College has been in existence for 65 years. Since 1926 the department and its academic programs have evolved and grown, responding to the needs of the agricultural industry and the student clientele which it serves. The following provides a brief synopsis of the past and a look at the future through the eyes of two of the five people who have held the post of Chairman.

Early History

In the first 48 years (1926-74) of the history of agricultural economics at Macdonald is pretty much the story of two men, each a recognized leader in the profession at the time. Professor Lattimer, a veteran of World War I who earned a PhD from Wisconsin after graduation in animal science at the University of Alberta, was the founding Chairman (1926) and remained at the helm until his retirement in 1949. He was succeeded by Professor David L. MacFarlane, a native of Saskatchewan with a PhD from Minnesota, who held the post until his retirement in 1974.

Like these two men left a major imprint on the teaching of agricultural economics at Macdonald, others also contributed during the years: Dr. William Haviland for five years (1953-58) and Dr. Cecil Haver for 12 years (1960-72). Dr. Lewis Fischer served the department faithfully as Research Associate Lecturer from 1963 until his death in 1989.

The early academic program consisted of courses in political economy and farm management offered to degree and diploma students together. During the 1930s, the degree and diploma courses were separated and covered was expanded to include the principles of economic theory and marketing and cooperation. When economics was offered as a "major-subject" in 1945-46, students were required to take part of their course work in the department of Economics and Political Science on the downtown campus of McGill, a vision which remained in the program until 1975. More on the early history may be found in the paper by the late Lewis Fischer on the sixty years of Agricultural Economics at

Macdonald College," a condensation of which was published in the Journal in November 1986.

Recent Past

The 1970s were years of change and uncertainty. Dr. Gordon MacEachern (PhD Purdue) succeeded Dr. MacFarlane as Chairman in 1974 and initiated several important changes in the academic program. New courses were offered reflecting an increased emphasis on management and marketing, particularly as they relate to agribusiness; Case studies were used extensively in several courses, including resource and development economics, and training of graduate students was initiated under an Ad Hoc arrangement with the Faculty of Graduate Studies and Research.

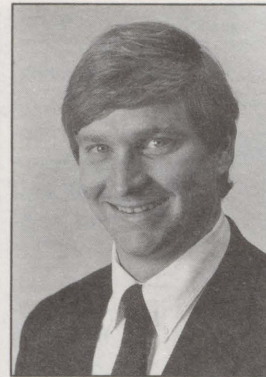
There were numerous changes in staff. Indeed, during the 10-year period from 1975 to 1984, at least 20 different people served as part-time lecturers. Dr. MacEachern left in 1978 and eventually became Deputy Minister of Agriculture in Prince Edward Island, having previously served in the same capacity in British Columbia. Mr. Patrick Moncrieff (MSc Alberta) served as Lecturer and Executive Director with Dr. MacEachern from 1975, and briefly as Acting Chairman in 1979, before taking an executive position with the Bank of Montreal and later with Cyanamid.

Enrollment in the BSc program grew during the 1970s reflecting the increased interest of French-speaking students in the program.

Current Programs and Staff

The Department currently offers a full BSc program, MSc program, and access to PhD training through the Department of Economics as well as courses in the Diploma Program.

The BSc program has been tailored to prepare students for the major career streams in the field through groupings of courses known as "orientations." For example, the "Agricultural Systems" orientation is designed to prepare students



Dr. R. Westgren

especially for careers in the public service through government, farm, or industry association or for further study and research. The "Agribusiness" orientation is intended for people who are primarily interested in a career in the private sector and, consequently,

places more emphasis on management, marketing, and finance. A third orientation on "Natural Resource Economics" has just been added to train students in the application of economic principles to the evaluation and management of the environment. Students are required to take courses on the McGill campus for the Agribusiness and Natural Resource Economics orientations, and all students are encouraged to do so.

In terms of enrollment, graduation, and placement of students, the program has been quite successful. Since 1980 more students have graduated with a major in Agricultural Economics (176) than in the 25 preceding years (See Figure 1). Most graduates have found employment relatively easily over this period and several have gone on to further studies.

The formal approval by the Government of Quebec of the Master of Science Program in

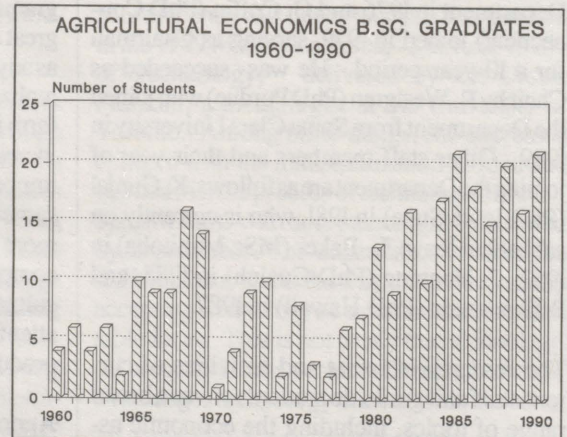


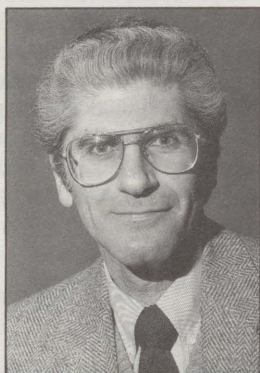
Figure 1.

From the Dean's Desk



Dr. G. Coffin

1987 was a significant achievement, capping several years of work in program development, resource building and staff recruitment. At present there are 18 students registered in the program, half of whom are Canadian with the balance representing eight other countries. These students take part of their course work in the Department of Economics downtown. Recent MSc graduates hold positions at the



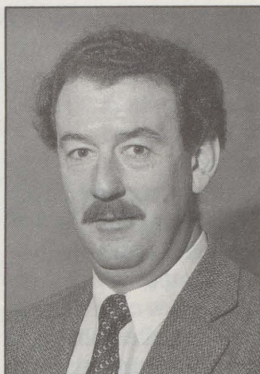
Dr. O. Al-Zand

Ministry of Finance in Ottawa, the Canadian Dairy Commission, Union des Producteurs Agricoles du Québec, Université Laval, and various private businesses.

Full-time academic staff of the Department currently numbers seven, only two of whom

have been staff members for more than 10 years. O. Al-Zand (PhD Minnesota) joined the Department in 1976 and G. Coffin (PhD Connecticut) joined in 1979, serving as Chairman for a 10-year period. He was succeeded as Chair by R. Westgren (PhD Purdue) who joined the Department from Santa Clara University in 1989. Other staff members and their year of joining the Department are as follows: K. Gunjal (PhD Iowa State) in 1981, who is currently on sabbatical leave, L. Baker (MSc Manitoba) in 1982, J. Henning (PhD Guelph) in 1985, and P. Thomassin (PhD Hawaii) in 1987.

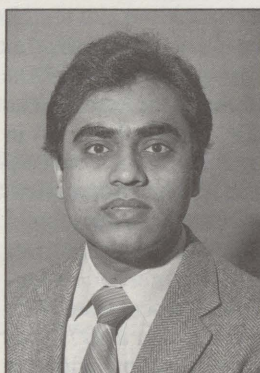
The research interests and activities of current staff and graduate students cover a broad range of topics, including the economic aspects of: intensive cereal management in



L.B. Baker

Quebec, ethanol production from Jerusalem artichoke, soil compaction problems, risk attitudes of dairy and hog farmers, risk management and strategic planning in agribusiness, long-term leasing of land, trade impacts of domestic agricultural policies, performance of marketing systems, and the demand for dairy products.

The Future



Dr. K. Gunjal

There are several challenges facing the teaching, research, and service missions of agricultural economics. It is incumbent on the department to research the effects on agriculture in Quebec and Canada of the increased globalization of the agricultural economy. No more can

agricultural policy be considered a national phenomenon. The farm income support programs of the European Community have as great an impact on the welfare of rural Canada as any federal policy. Canadian producers must realize that traditional markets that sustained farm incomes in the 1970s are gone. There are increased pressures on domestic markets from imported products. Foreign markets that consumed Canadian grains are now producing more for themselves and buying from new competitors in the world marketplace. Agricultural economics courses must expand the attention paid to the international context of production and marketing decisions.

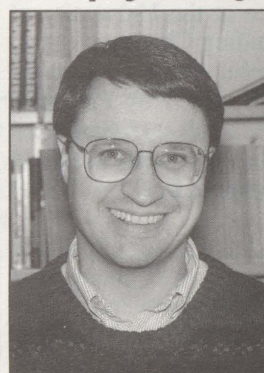
Agricultural economics must take a leadership role in the study of the relationships between



Dr. J. Henning

context of the physical environment in which the agricultural economy operates.

A final challenge to the research, teaching, and service programs in agricultural economics



Dr. P. Thomassin

to address the increased uncertainty facing agricultural producers, processors, marketers, policy makers, business environment for decision makers in the food sector will increasingly turn turbulent. Canadian food cannot be insulated from unpredictable

effects of macroeconomic policies and policies of the world's trading countries, burgeoning needs for information and information processing, the movement to a service economy, and the increasing consumer demands for safe, wholesome, nutritious, environmentally benign products. The "megatrends" make decisions more ambiguous and their results more risky. Research and teaching must be directed toward making decision-makers in agri-food more capable in dealing with these sources of ambiguity, so as to maintain the competitiveness of Canadian agriculture.

The Future of Small Towns in Quebec

Flore Fournier, Diploma in Agriculture Program, and
in Henning, Department of Agricultural Economics

February 1991, a gathering of farmers, rural inhabitants, and representatives of the institutions implicated in Quebec's rural milieu will take place to consider "Les États généraux du Monde Rural," the state of rural Quebec, and its future. The conference is being organized by the Union des Producteurs Agricoles for the purpose of providing a forum for dialogue through which consensus might be reached on how to reorganize rural Quebec and reverse some of troubling trends that have been developing over the past few decades.

The trend that most people are aware of is the decline in the number of farms. Since the early 1940s, the number of farms in Canada has been decreasing and, at the same time, the proportion of the population directly involved in farm level production. Only about four per cent of the population is now on the farm. In Quebec in 1951 there were 134 thousand farms, but this had fallen to 41 thousand by 1986, at the time of the last census. In the important dairy sector there were about 22 thousand farms in 1981, but according to the Fédération des producteurs de lait there are now less than 14 thousand now, and the number is falling by over three per cent per year. As farms have consolidated and adopted modern production technologies, local businesses have been faced with fewer customers, declining sales and, in many cases, have ceased operation. Consolidation is likely to continue.

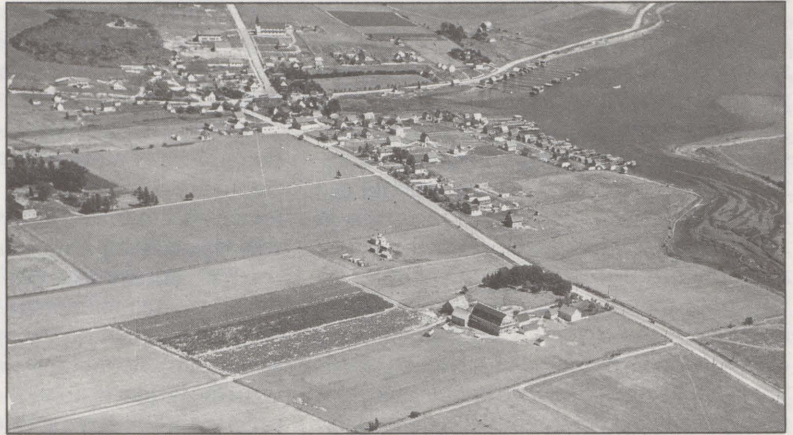
Many rural communities have witnessed the migration of their young people to large urban centres, have noticed with concern their declining and aging population, the disappearance of services they once took for granted, and the disintegration of their social networks. An indication of the concern in rural communities is provided in the results of a recent survey conducted for Agriculture Canada by the polling firm Angus Reid. Sixty per cent of farmers in Quebec tended to believe that their rural community has deteriorated. Rural Quebec is realizing that it can no longer count on primary agriculture and forestry, as they are currently constituted, to support the local economy.

Les États généraux is aimed at facing these problems and considering what kind of model might be adopted to allow for the development of modern rural communities that participate in the future economic progress of the country. Yet, at the same time, these are more

than simple economic considerations. Will there be a place for the arts and culture and the maintenance of rural values? Can the environment be respected? What will be the role of regional governments in rural development?

It is an ambitious undertaking; the questions being asked are large in scope, and the solutions are equally large, but this must not dissuade their confrontation, nor diminish the sense of urgency they demand. They are this way as the result of many years of neglect by society at large and, as such, the problems and the questions are not unique to rural Quebec. Urban society shares many of the same concerns, motivated by common problems that are multi-faceted, complex, and will take a great commitment and effort to resolve, since they are rooted in the heart of the value systems and the technology of modern western culture.

In the early 1970s E.F. Schumacher's ideas on technology became popularized through his book "Small is Beautiful." One of his fundamental concerns was that communities and the people who inhabit them are being destroyed by modern technologies. From Schumacher's perspective, he saw that large scale, modern technology was displacing small scale, diverse, socially integrated technologies and, in the process, impoverishing and dehumanizing those who were unfortunate enough to be part of the labour force "liberated" by this process.



What is the future of the rural community?

One of Schumacher's interesting observations was what he called the "law of the disappearing middle" brought about by the progression of large scale technology. This is, among other things, what has been happening in agriculture in Quebec and throughout the industrialized West, although the Europeans seem to have been more aware of the deeper implications of this phenomenon and have been resisting the trend better than we here in North America. Medium-sized farms that are usually associated with commercial, family farming have been disappearing relative to the very small and very large farms. Economies of size favour large farms as the viable, full time economic unit, while small farms are able to survive due to off-farm employment.

More recently this line of analysis was pursued in the 1989 Massey Lectures, "The Real World of Technology," delivered by Dr. Ursula Franklin, a metallurgist at the University of Toronto. Among other things, she expressed concern with the industrialization of food and warned that the process of technological development starts with acceptance and is followed by dependence. The dependence is rooted in the belief that this is the way things are, and by accepting technology as an external and immutable factor. This is not to say that technological progress is to be avoided. There is, however, a message: technology carries with it a set of

(Continued on page 12)

Farm Financial Stress: Causes and Cures

by Laurie Baker and Paul J. Thomassin
Department of Agricultural Economics

The subject of financial stress in Canadian agriculture has been receiving more emphasis since 1982 when mortgage interest rates peaked at 22.75 per cent. This followed a period of record growth and prosperity in Canadian agriculture when, during the 1970s, farmland had increased in value tenfold and more. Along with the dramatic increase in interest rates was an equally dramatic decline in commodity prices, in particular grain. The farm price for grains was the same in 1990 as it was in the mid 1970s. Quebec farmers have been shielded from some of the worst of this financial stress due to the predominance of supply managed commodities such as dairy and the availability of stabilization programs for many other commodities.

An unfortunate side effect of such a roller-coaster ride of farm asset values is the stress involved in financing the farm operation and, more importantly, in the transfer of the family farm between generations. This intergenerational transfer usually involves some sort of purchase agreement which requires debt financing. Obviously as farms increase in value so will the debt requirements to purchase them. If commodity prices are low and input costs, such as interest rates, are high, it may be very difficult or even impossible for the transfer to take place. If, in fact, a transfer is possible, there is still a reasonable chance that the farm firm will collapse financially due to the excessive debt loading.

As Canadian agriculture moved through this cycle of commodity and asset prices, different financing options were researched and introduced for Canadian farmers to alleviate the resulting financial stress. During the 1970s fixed term mortgages were replaced by shorter term mortgage contracts which meant that the interest rate could only be locked in for a term much less than the length of the mortgage loan. A five-year term was quite common and, in fact, as interest rates rose through the late 1970s, a variable rate contract was introduced. In essence this was an operating loan used for long-term asset purchases.

Along with this change in the term of mortgage contracts, changes in the calculation of

the periodic payments associated with mortgage loans were offered to also lessen financial stress. One such type of mortgage was the commodity based loan mortgage (CBLM) program offered by the Farm Credit Corporation (FCC). With this program the periodic payments were adjusted, either higher or lower, to changes in commodity prices. It was hoped that this mortgage vehicle would decrease the stress on the farmer's cash flow position when commodity prices were low. This adjustment to the periodic payment schedule of the mortgage increased the ability of the farmer to repay the loan. The CBLM program offered by the FCC was cancelled in 1989 due to a lack of interest in it on the part of farmers.

An alternate contract was the shared appreciation mortgage (SAM) which was designed to allow for a sharing of the equity appreciation in a property between the borrower and the lender. In exchange for his/her share in this appreciation the lender would lower the periodic payments which would be particularly attractive in times of poor cash flow. This type of contract virtually disappeared when the inflation rate fell as this was an indication that there would be little equity appreciation to be shared.

Unfortunately, none of the above mentioned proposed solutions to the financial stress problems in Canadian agriculture has, in fact, succeeded in reducing the stress, and farm bankruptcies are now a greater problem than they were during the 1970s into the early 1980s. It would appear that farm commodity prices are too low to provide the needed cash flow to make major purchases such as real estate. When the cash flow improves, there is a consequent rise in asset values, and thus it remains hard if not impossible to justify the market value for the assets, particularly if the purchase has to be made with debt.

Our research addresses these issues and attempts to answer the following questions: (a) why farms should be transferred between generations through purchase agreements, and (b) are there viable ways to aid this transfer with a reduction of the associated



Will a beginning farmer be able to afford this in the future?

financial stress? It is understood that an outright purchase agreement may be preferable from a psychological point of view, but if a farm is stressed to the point of failure, no benefits. Perhaps other financing/transfer vehicles might be put in place to the advantage of everyone involved.

In this research a comparison is made between purchasing farmland and acquiring use of the same real estate through a long term lease. The length of the leases which have been analyzed in our research are 25 and 45 years. These differ markedly from the Canadian "norm" of one to three years which is understood to embody problems related to conservation farm practices, as a tenant involved in such a short-term lease has no incentive to conserve the land resource in those years after the expiration of the lease agreement. The longer the planning horizon for a farmer, the more that farmer will conserve the resource for future time periods. Thus we argue that longer term leases, such as those mentioned above, do not have the same problem as do the short-term leases which are in use today.

The 45-year lease term corresponds to a normal working lifespan with no consideration being given to transfers of leases between generations. The 25-year lease would allow adequate time to build an equity base to finance a leveraged buy-out of a farm unit.

ct, any lease term could be set so long as it remembered that as the lease term is shortened towards the "norm" of one to three years, conservation problems will increase. Perhaps a 10-year lease could be employed for intergenerational transfer to lessen the financial stress on the younger generation.

o date we have compared leasing with purchase for a Saskatchewan grain farm, and we will shortly be repeating the analysis for various types of farms in Quebec. The results of the analysis for a 25-year lease for a 465-hectare farm are as follows:

Market Value of Land and Buildings	\$331,104
Annual Cost to Purchase (25% Down Payment)	54,585
Annual Lease Payment	27,300
Annual Lease Advantage	27,285
Cost of Ownership over 25 Years	206,999

The Annual Lease Advantage (\$27,285) is a considerable sum of money and would contribute to a lessening of financial stress for this farm. The Cost of Ownership (\$206,999) is the estimate of the cost to own the land as opposed to farming the land. In other words to be able to say "this land is mine." Each individual must rationalize this sum in his/her own way. Our research supports economic theory in that we would expect the cost of ownership to decline as the lease term gets longer. In fact you would expect the cost of ownership to be \$0 for a lease with an infinite term.

A change in the institutional structure related to the financing of Canadian agriculture is required to take full advantage of an option such as leasing. This change relates both to the philosophical views that we hold concerning farming as well as changes required under the bank act to allow financial institutions to own and control real estate.

We can conclude from this research that if a prospective farmer is faced with the decision to purchase a farm with maximum debt or to lease the same farm, then the leasing option will result in less stress and thus will enhance the chances of success. On the other hand, if the prospective farmer is in the position to purchase the same farm with minimum debt, then the purchase option may be the preferable one. Thus the option to choose will be determined by the debt loading required. Finally, if ownership of real estate can be divorced from the management of it, we hypothesize that it would be easier for farmers to concentrate on the business of farming without being sidetracked by the ownership aspects of it.

New Horticultural Business Management Option

The Departments of Agricultural Economics and Plant Science are jointly offering a new option for BSc students. Horticulture Business Management is an option within the Plant Science major and is designed to prepare students for a wide range of careers in the production and marketing of horticultural products. This option fills a need expressed by professionals in the horticultural industries for education in both the technical and management aspects of their businesses. Graduates are prepared for positions in wholesaling and retailing of fruits and vegetables, greenhouse and garden centre management, and the production of fruits, vegetables, and ornamentals.

This option consists of six semesters of coursework in three areas of study: basic plant science, horticultural production, and economics business. The third year curriculum includes new courses available only to students

enrolled in the option: Horticultural Industry Systems and Horticultural Business Management. The former course consists of field trips and visits to businesses that produce, process, and market horticultural products. The latter course is the "capstone" to the program, where through case studies and term projects, students integrate their prior studies in management and horticulture. These courses replace the seminar course usually required of science majors.

Persons interested in this option can obtain additional information from:
Program Advisor
Horticultural Business Management
Plant Science Department
Macdonald College of McGill University
21,111 Lakeshore Road
Ste. Anne de Bellevue, PQ H9X 1C0



Financing Organic Agriculture

By Gunta Vitins and Paul J. Thomassin
Department of Agricultural Economics

Agricultural producers often experience challenging problems in the financing and marketing of new products. This is especially true when economic conditions are poor. Recently, more producers have shown an interest in the production of organic products. With this interest, there have been questions raised about the financing and marketing of such products.

Several studies in the United States have provided evidence of credit discrimination against organic producers. Very little was known, however, about the situation in Quebec. To gain insight into the situation, the Department of Agricultural Economics (L. Baker, J. Henning, and P. Thomassin) conducted a two-part survey to investigate the relationship between organic producers and their lending institutions. Eighty organic producers and 38 financial institutions in Quebec participated in the survey. The information generated from the surveys provides insight into potential new policy directions for organic producers.

The first part of the study provided a profile of organic producers in Quebec. On average, the producers surveyed operated smaller farms, had lower sales levels, and weaker debt-asset ratios than conventional producers. The organic producers also tended to be younger in age and have less farming experience than the average Quebec producer.

Several questions in the survey related directly to the experiences of organic producers in the credit market. Although most producers stated that they did not have problems getting loans because they were organic farmers, half of them agreed that loans were harder to obtain for organic producers. Several respondents commented that problems obtaining credit may not be related to the fact that they were organic producers. Other important reasons suggested were: size of operation, low levels of equity, age of producer, part-time versus full-time operators. However, close to 10 per cent of respondents claimed that they had experienced problems specifically due to being identified as organic. The reasons cited related primarily to informational deficiencies, i.e., lack of reliable data on yields or on profitability of organic production. Many producers expressed dis-

satisfaction with the system of marketing organic products in Quebec, claiming that it is inefficient and largely unregulated. The producers agreed that the public's awareness of organic products was inadequate. They also recognized that the lack of province-wide certification standards and a clear legal definition of the meaning of "organic" in a marketing context has created problems. However, the Quebec government is actively working on improving the situation, and certification and labelling standards will come into effect in 1991.

The second part of the study investigated how financial institutions evaluate agricultural loans and, in particular, loans to organic producers. Five loan evaluation criteria commonly used by financial institutions were identified for comparing how loan officers evaluate applications from organic versus conventional producers. The criteria included were: economic conditions, cash flow, debt-to-asset ratio, management ability, and characteristics of the borrower (e.g. past credit performance). Each respondent was asked to weigh the importance of the criteria. The results indicate that loan officers consider the evaluation criteria to be similarly important for both conventional and organic producers. Debt-to-asset ratio, cash flow, and management ability were the most important criteria in all cases.

The individual respondents were again asked to weigh the same five criteria in the context of evaluating a loan to a hypothetical buffalo rancher. This part of the survey placed the loan officer in a situation where a new product was being marketed with little existing information on costs or prices. The importance placed on each of the criteria was uniformly higher for this situation. This suggests that respondents are more cautious when they are evaluating an operation which is more unusual and riskier than conventional operations. The higher values on the criteria would imply a greater probability of loan refusal. This exercise would indicate that lenders may evaluate organic producers differently because of the limited existing information about the production and marketing of such products. All financial institutions agreed that additional information about organic agriculture was needed. This included



Gunta Vitins

information on production costs and prices received in the marketplace. These information needs parallel those of organic producers.

The surveys indicate there was no overt credit discrimination against organic producers, but there are sufficient numbers of producers having difficulties for concern. Given the importance that lenders attach to the debt-asset ratio and the numbers of producers with weak ratios, it is not surprising that some producers would be experiencing problems. However, this is an individual problem. Probably more serious are the effects that marketing and informational uncertainties are having on lender decision making. The financial survey indicated that lenders are sensitive to risk and uncertainty generated by informational deficiencies and market instability. Increasing the access to credit markets for organic producers would require that the organic sector work toward organizing an effective marketing and informational network in Quebec.



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ATT: Uruguay Round and Agricultural Trade Liberalization

Professor Osama A. Al-Zand
Department of Agricultural Economics

This article was written in November 1990. The final stage of the Uruguay Round of Trade Negotiations held in Brussels was suspended for lack of agreement on December 7, 1990. Further negotiations are tentatively planned for early this year in Geneva.

The quest for world trade liberalization in agricultural products will most likely continue beyond the conclusion of the present Uruguay Round of negotiations under the General Agreement on Tariffs and Trade (GATT) scheduled for completion in December 1990. Regardless of the nature of the final agreement, the need to pursue and implement effective trade rules of conduct governing agricultural products is crucial. All countries are facing the difficult task of balancing their national policies and programs which protect their domestic agriculture and global mutual benefits and savings anticipated from liberalized and equitable trade practices.

Trade negotiations under the GATT have been in process for the past four years among 14 major groups covering traded goods and services. Agricultural products, one of the sectoral groups, are considered the most important. The terms of the level of trade barriers needed to overcome and the potential gain anticipated for the world economy from a liberalized trade pattern. In 1987 world imports of agricultural products were estimated at \$330 billion. Expected gain from freer trade is projected at 100 billion annually or an increase of about 10 per cent a year. This is by far the most promising gain of any sector under negotiation.

Conflicting Interests

Ongoing GATT negotiations on agricultural trade are bringing into policy debate within each country a diverging and often conflicting perspective on national economic priorities and objectives. These perspectives are mainly expressed by three interest groups representing the rural, public, and financial implications of existing national agricultural policies.

Producers, farm organizations, and ministries of agriculture in GATT member-countries are

concerned with the welfare and viability of agriculture as a key economic sector which needs to be maintained. Provision of economic protection to domestic agricultural industries and farmers is considered vital to national food security and independence from the vagaries of international trade. Hence a supply of food from domestic sources is a desired policy target for most governments. Ironically, this perspective is being strengthened when one observes, at the time of writing, the outlook facing besieged countries like Iraq which imports more than half of its food requirements from external sources. Complete or near self-sufficiency in food will remain an attractive national policy target which would limit total reliance on trade.

Private and public interests including ministries of trade and commerce are advocating "outward" promotion of economic sectors through opening markets both domestically and globally. This perspective is particularly relevant for agriculture where most of the market growth achieved over the past several decades for food exporting countries such as Canada and the United States was realized from export trade. Curtailment of world markets by national tariff and non-tariff barriers will lead to stagnation in production and misallocation of resources. Promotion of world markets via unrestricted trade is the fundamental concept behind the GATT.

National treasuries and ministries of finance are increasingly concerned with the mounting costs of farm subsidies. This is particularly evident in high income and industrialized countries. Treasuries which are facing budgetary deficits and accumulated national debt are under considerable pressure to reduce transfer payments and redirect farm subsidies. Gradual restructuring and targeting such subsidies as a result of successful trade negotiation will ultimately lessen or eliminate the need for the costly "battle of treasuries" among high income trading nations in protecting their agricultural interests.

Resolutions of these conflicts and accommodations for various national interests under the GATT forum are the challenges facing the current and future rounds of negotiations.



Export trade is vital for Canadian agriculture.

Guiding Principles

The GATT is the only voluntary international forum which monitors and promotes trade and trade-enhancing policies among more than 100 member countries. It is based on three fundamental principles which guide its decisions: Reciprocity; Non-Discrimination, and Transparency.

The reciprocity principle involves mutual concessions which are required between two or more countries for "market-opening" to occur. This principle has proven to be most useful in the provision of effective reduction in trade barriers among countries. It creates a climate and facility of a two-way expansion of trade flow. Reciprocity is considered an equitable principle to achieve trade barrier reductions among sovereign nations.

Non-discrimination means granting of equal treatment by adoption of the "most-favoured-nation" (MFN) criteria to all countries without exemption of special status. The guiding principle here is the non-acceptance of trade discrimination as a means to achieve compli-

ance of imposing penalties on trading nations for political or other reasons. A broad interpretation of this principle implies non-acceptance of trade sanctions as a "weapon" to extract political concessions.

This principle has not received universal acceptance as many countries, most notably the U.S., have periodically or permanently denied MFN treatment to selected countries for political considerations.

Transparency suggests all measures of support, particularly domestic price support and other forms of assistance for commodity production, must not be concealed but rather easily recognized. This principle would allow GATT to assess and compare trade distorting practices among countries. One of the most critical subjects of negotiation under GATT, encompassing this principle, is the mandatory transformation of non-tariff barriers, such as import quotas and state licensing, into fixed tariffs (tariffication) and eventual binding of these tariffs. The fundamental assumption involved is that protection through non-tariff barriers is the most harmful to world trade and must always be resisted.

Gatt Obstacles in Agriculture

Agreement on liberalizing world agricultural trade is the most formidable task facing GATT member countries at this time. The complexity and diversity of national agricultural policies and instruments used among countries to support their respective agriculture tend to make trade concessions a slow and tedious process. Some of the most apparent obstacles remaining to be resolved include the following:

1. Which sector (commodity) ought to be included (excluded) for trade liberalization and concessions? Countries have common and conflicting interests depending on the sector. For example, trade in oilseeds, such as canola (Canada) and soybean (U.S.), is relatively free and subject to little or no restriction while that for dairy products is highly protected and managed through various import and ex-

port regulations. National dairy policies of most high income industrialized countries have distorted comparative advantage and consequently competitive trade pattern among producing countries.

2. How to quantify and calculate Aggregate Measures of Support (AMS), such as Producer Subsidy Equivalent (PSE), for agriculture that, directly or indirectly, have a trade distorting effect? Disagreement among countries does exist as to the trade distorting effect of various agricultural support policies. For example, the U.S. and Canadian position stress border measures (such as import levies and export subsidies) as having the most detrimental effect on trade. The impact of such actions is most evident on the resulting trade market share among exporting countries.
3. What timetable, or target date, ought to be adopted which would allow member countries to fulfill their negotiated agreement? Agreement on the starting and ending timetable is significant, depending on the ease (difficulty) of adjustment, regional interests within countries, and availability of alternate transitional measures of protection with no trade distorting effect.
4. How to align the rate of reduction in export subsidies with the overall AMS? The U.S. and Canada are pressing for complete and immediate elimination of export subsidies while the Economic Community's position is for simultaneous and gradual phasing out of other AMS which are not yet fully defined or agreed upon by member countries.
5. What exceptions and/or exemptions, if any, from GATT rules should be permitted to countries? The disagreement lies in coverage and interpretation of such exemptions, such as those found in article XI of GATT, and whether these apply for raw agricultural commodities or value added food products. This is of critical importance for supply-managed agricultural commodities in Canada where "market-

opening" will have a detrimental effect on the viability of the national marketing plan.

An agreement on these and other issues will require both political will and mutual concessions by all countries. Regardless of the nature and extent of the final outcome, the Uruguay Round has, at least, started the momentum for saner agricultural trade rules and practices.

(continued from page 7)

values, and it needs to be evaluated in terms of its potential pernicious implications.

As an example, the technology of industrial agriculture has been slowly divorcing farmers from the techniques of agriculture. Knowledge for the farmer is becoming more remote. The choice of technology is one of the fundamental management decisions, but increasingly, the decisions regarding which technologies will be available are being made by managers further away from the farm. It is becoming more common for a technological package to be handed to a farmer to administer to the land in much the same way many modern physicians have become the dispensing agents for the pharmaceutical industry. Farmers have gradually acceded to this; solutions to problems have been sought more and more from the outside - from the external experts. If things are to be otherwise, there is a need for discussion of a number of levels in the rural community.

Les États généraux will need to go very deep, asking questions about the state of the rural community: what is it about the system that is driving these communities to where they are? What is it about technology, the educational system, the system of values carried by the technology, what ethics, what psychology? The participants will need to consider the ecology of the rural communities in the same way that more and more people have become interested in the ecology of their natural environment. What is the nature of the relationships between people and their institutions, and their surroundings? These questions are important, for it is these relationships that create value in the lives of the people that live in these communities and are assets being lost.

Mac International

Development Without Women?

Monique Goyette and Edji Seyoum
students in the Department of Agricultural Economics

Miss Goyette, BSc(Agr)'85, holds a DA Award for Canadians to study the impact of women's groups on agricultural development in Rwanda. Miss Seyoum is MSc student from Ethiopia. She holds a DA scholarship and has worked with the International Livestock Centre in Addis Ababa.)

Despite the numerous research findings documenting women's extensive role in agricultural production, many recent studies still show their limited access to resources, extension services, credit, education, technology, and so on. Although women perform a substantial portion of the physical work on the farm as well as over 90 per cent of the household activities throughout Africa, they have a lower status than men.

Although women are respected as mothers, they experience a persistent and highly pervasive bias in employment opportunities and income levels whenever they are forced by economic pressures to work off the farm. They work in sectors where labour is hard, hours are long, and wages are low. Women also form the majority of the poor in most developing countries (LDCs).

According to the United Nations conference on Women, "women represent half of the population, provide two thirds of the labour supply, obtain one tenth of wage benefits and own only one hundredth of the world's assets." Currently, agricultural production and supply problems in LDCs are two topics of great importance. The question of achieving sustainable economic growth and development in these countries has similarly become a major issue in recent years. But is there sustainable development without women, particularly where women have most of the responsibility for raising children: the future generation?

Extension systems research and extension projects which design and test technology especially for women farmers are rare and are usually instigated by women themselves. In virtually all least developed regions only 10 per cent of development projects

mention women and rarely in details they deserve. It is interesting to notice, however, that in the late 1980s women started to receive more and more attention from Non Government Organizations (NGOs) promoting development research in LDCs.

The impact of women's role in development could be strengthened by tightening up income-generating activities. In order to ensure more significant economic benefits, women should be provided with more space in training and extension activities, access to resources and should be given greater responsibility in decision making and management of activities which concern them. To the best of our knowledge, there is no evidence whatsoever that women are less productive than men and, therefore, there is no reason for being biased against them.

Recognizing the important contribution of women to LDC's and improving their economic, social, and political status is the only way of having them fully benefit from development.

The Case of Rwanda



Monique Goyette

Rwanda is a small land-locked country in East Africa. With 6.5 million inhabitants and a GNP per capita of \$US 290, Rwanda is one of the most densely populated and the least developed countries in Africa.

In Rwanda, almost all working women, 97.7%, are involved in the agricultural sector. The tasks of women are excessive. They are engaged in production and reproduction activities, take care of the household, and most of the food crop production. A study by Bremer (1985) showed that they work approximately nine hours per day in the field.

Women live in a patriarchal system where married women live within their husband's family. The increasing migration of husbands to the capital, Kigali, has a negative impact on women's well being and expands their work load.

To gain higher status women in rural Rwanda must be fertile (based on the number of children they have). The frequent pregnancies, along with tiresome and heavy work, leave them in a generally low state of health and decrease their access to formal and informal education.

Traditionally, women do not have a right to inheritance. The Rwandan constitution recognizes the same rights for both men and women, but there is no recognition for land inheritance for women as opposed to men.

There are some projects to encourage women's participation in the process of development. One important project is the involvement of women in rural associations which deal with the production of agricultural products. Women get together to work on a plot of land and cultivate it, and the benefits are shared between all the members of the association.

Although the government is fostering membership of peasant women in rural associations, involvement of women is low but increasing. The associations give women the opportunity to get together and exchange ideas, learn some new techniques, and receive an additional income. Women in these associations perceive social benefits as more important than economic benefits. They can talk about their problems and find their solutions. In addition to the provision of regular supplementary income to the family, membership facilitates communication, helps build strong solidarity, and eases mutual assistance.

Women Dairy Producers in Ethiopia

A dairy production study undertaken in the highland areas of Ethiopia in 1989 gives strong support to existing evidence of the crucial role of women in agricultural pro-



Edji Seyoum

duction both in rural and urban areas and the urgent need to support them.

Although women have more competence in performing the various dairy operations (milk-ing, housing, and so on) and also have a better knowledge of the idiosyncrasies

of individual animals which are predominantly their responsibility, they do not play any major role in culling, replacement, and other important management decisions.

In over 80 per cent of cases both in urban and rural areas men decide the input purchases and output sales. An interesting exception to this is that women in rural areas are almost entirely responsible for the sales of dairy output such as milk, butter, cheese, or dung

cakes. It does not necessarily mean, however, that they can also appropriate the income generated, which is often never large enough to be commensurate with their efforts.

Dairy producing households headed by women were 36 per cent in urban areas and 2 per cent in rural areas. The educational level of women producers is lower than average and they are nearly always divorced, widowed, or old. Could it be because of lack of orientation, training, and access to resources that a profitable business such as dairying failed to attract younger, single, and unemployed women?

About 83 per cent of the labour inputs for crop production is provided by family members, of which 10 per cent is by women and 15 per cent by children less than 15 years old. Women participate usually in harvesting, transporting, threshing, storing, weeding and, to a lesser extent, in seeding and fertilizing. They, however, have no decision power in either input purchase or output disposal.

Each day women travel very long distances to fetch 95 per cent of the water and fuel used by their family. Water is transported in locally-made clay jars (heavy even when empty) and wood is attached to their backs with a rope. With all this hard work, there is always the possibility of health problems. It is also the primary responsibility of women to take care of children and all culinary activities. In over 83 per cent of cases in urban areas, and over 90 per cent of cases in rural areas women are the major-decision makers of household expenses. However, men still interfere by limiting the amount of resources available for expenditure.

Although the primary objective of this study is to make a comparative analysis of production efficiency of urban and rural dairy producers, it also gives far more indications than are mentioned here that women are not obtaining appropriate remuneration for the services they provide.

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Focus Environment

Environmental and Resource Economics

Professors Paul J. Thomassin and Randal Westgren
Department of Agricultural Economics

Canadians have become increasingly aware of the environment. Whether it is deciding on plastic or paper bags at the grocery check out or different manure composting options, the importance of taking the environment into consideration seems to be evident. The discipline of economics has long recognized the importance of the environment and its implications in decision making.

One of the earliest recognitions of the environment in economics dealt with the problem of the polluting firm. A firm would pollute the environment, air or water, because it was no cost to the owner of the firm for using the environment as a means of disposing of wastes and was, therefore, cost effective. Economists noted that there were private costs for the firm, which it had to pay, and other costs, waste disposal, which it did pay. These other costs have been identified as social costs in economics. In order for efficient allocation of resources to be made, these social costs of the firm have to be taken into consideration. This is done using taxes, pollution standards, or tradable pollution permits. Each of these mechanisms for incorporating social costs provides incentives for individuals and firms to take the environment into consideration in their decision-making process.

The study of the environment in economics covers a much broader area than just pollution problems. Two other interesting areas are the valuation of non market resources and the evaluation of development projects which have a large environmental impact. Economists have developed a number of techniques which value such things as endangered species, such as the beluga whale in the Upper St. Lawrence or the wilderness experience of rafting on a wild river. The values obtained from these techniques can give an indication of the value society places on these resources which are not traded in the market place. This provides information to government decision makers who allocate money for these areas.

Often decisions have to be made in regard to the trade off between industrial development and the environment. Economists have developed cost-benefit analysis to evaluate these trade offs. This technique requires the economist to value all of the benefits and costs associated with a project and determine whether or not it is a good investment for society.

Natural Resource Economics

The Department of Agricultural Economics has developed a new program offering in

Natural Resource Economics to train individuals in the evaluation and management of the environment in economic decision making. This option integrates an understanding of the biological and institutional constraints into an economic framework. Employment opportunities for these students would be in the private or public sectors in areas of environmental evaluation and management. Further information on this program may be obtained from:

Professor Paul Thomassin
Department of Agricultural Economics
Macdonald College of McGill University
21,111 Lakeshore Road
Ste. Anne de Bellevue, Que
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The Canadian Network of Resource Economists is a network of economists working in the area of environmental and resource economics. Individuals who are working in this area and would like to become a member of the network contact: Professor Paul Thomassin, Department of Agricultural Economics, Macdonald College of McGill University, 21,111 Lakeshore Road, Ste. Anne de Bellevue, Quebec, H9X 1C0.

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Notable Events

The 23rd International Dairy Congress: Part 11¹

by Gloria Sola

The 23rd International Dairy Congress, held October 8 - 12, 1990, in Montreal, brought together dairy researchers, manufacturers, and marketers from all over the world: from developing countries as well as developed. This was the first time the conference had been held in North America and more than 2,000 representatives from over 50 countries attended.

The Congress was divided into the following areas of interest: Developing Countries, Biotechnology, Economics and Marketing, New Products and Dairy Ingredients, Milk Production, Buffalo, Sheep and Goats, Milk Processing and Engineering and Food Safety, Quality Assurance and Legislation. Over the five-day period there were usually six sessions taking place simultaneously. This review will cover a sample of the talks given in the areas of Marketing, Milk Production, Biotechnology, and Developing Countries.

Marketing Down Under

From Melbourne, Australia, Mr. Tony Bardsley of Borlac Foods Ltd., spoke about the marketing of old and new dairy products. Showing slides of catchy and colourful advertisements and slogans, he spoke of the big selling, low-fat versions of old stand-bys such as yogurts, butter, and even milk.

Sales of 3.5 per cent white milk have been falling by two per cent per year; however, consumption of specialized low-fat milk has increased by 30 per cent and flavoured milks, which compete with soft drinks, have grown by three per cent. Butter is promoted on its taste and naturalness. It is packaged in plastic tubs and pats. Butter-margarine blends, reduced-fat dairy spreads, and low-salt varieties are available and increasing their market share.

Because of Australia's cultural and ethnic diversity, specialty cheeses, such as Brie and provolone, have made inroads into the traditional Cheddar cheese market. Fuelled by the fast food and restaurant market, the production of mozzarella has been growing. Reduced-fat cheeses have grown 300 per cent in

the past two years and are expected to make up nine per cent of the total market.

Low-fat, fruit-flavoured yogurts continue to sell well. A new, Australian product called Fruche made of cottage cheese, fruit, saccharine, gelatin, and vegetable gum for stability has been developed. It is being marketed as a low-fat, high-protein, all natural product having an exceptional 15-week shelf life which is important in the Australian market.

Even in such a large dairy-producing country as Australia, the trend is to low-fat, natural products, and this trend will continue.

Biotechnology

Dr. J.D. Oldham, from the Scotland Agriculture College, spoke on Changing Milk Composition through Nutrition and Biological Management. Noting that the market would like to have a 1:1 fat-protein ratio in milk rather than the present 1:2, he described the means to attain this. Although fat percentage is significantly influenced by nutrition, protein is not. The ratio can be altered to 1:1 by depressing the fat content; however, this is not desirable. Protein content can be increased through genetic selection of the breeding stock. This will be a slow process, however, because there is not a large genetic variation between animals. Genetic manipulation through gene insertion (transgenics) is a possible future way to introduce high milk protein carrying genes into our dairy cattle.

Dr. W. Chalupa, from the United States, explained the benefits of gene transfers in dairy cattle. We could improve disease resistance, make the animals adaptable to a wide range of environments, lower their maintenance requirements, and introduce the ability to digest toxic materials.

Advances in embryo manipulation give us the promise of cloning offspring, sex determination, and transgenics. The new repro-



Patti Ward, far right, guides a touring group of Congress delegates through the dairy teaching and research facilities at Macdonald.

ductive technology was explained by Neil First, from the University of Wisconsin. In his lab embryos are cloned by bisecting them at the four-cell stage. However, only per cent of them develop as compared to 50 per cent expected with embryo transfer. More exciting, however, is the possibility of actual gene transfer into the nucleus of embryos. Although work with dairy cattle has been in the forefront of embryo work (transplanting, splitting), all agree that most of the development work in gene mapping will occur in human medicine where there is great interest and funding for research on genetically caused diseases.

How will all of these factors be accounted for when we try to select our "best" animals for reproducing? Dr. J.A. Robinson, from Agriculture Canada, explained the Animal Model statistical system being used in Canada and the U.S. to evaluate A.I. sires. This statistical model, contrary to earlier systems, uses the lactations of the bull's dam and his daughters as well as information from his sibs and half sibs.

Dr. Brian Kennedy from the University of Guelph's Genetic Improvement Centre, gave a summary of the statistical implications of some of the new genetic technology and how it would have to be accounted for in a statistical model of the future. Effects such as cloning, the use of recombinant growth hormones, non additive gene effects, and gene imprinting, where the expression of the gene depends on whether the individual inherited

gene from the sire or the dam, would have been considered.

The session addressed the Perceptions and Misconceptions Surrounding Biotechnology. Marilyn Lister, from the Consumers Association of Canada, reflected that the consumer would remain sceptical of biotechnology until she sees that the benefits outweigh the risks. It is a matter of educating the consumer, she stated, so he has information on which to base his judgement. Biotechnology can lead to higher quality, safer and cheaper dairy products according to David Burbano of Cornell University. John Core from the Dairy Farmers of Canada said that farmers are facing increased competition and must keep up with the times. This means using biotechnology to the best advantage. All agreed that better communication is needed before there is widespread acceptance of new techniques in the production and processing of food.

In the area of Dairy Farm Automation Dr. W. Ordolff, from Germany's Federal Dairy Research Centre, discussed and showed a video on the totally automated dairy barn. In the cow feeds and is milked when she enters the milking parlor. She lives in a free stall and her electronic identification sees to it that she receives the proper ration from her bunker. When she moves into the milking parlour at home, she is again identified. The milking machine adjusts for her size, the udder is washed and a milking machine automatically attaches itself, locating the teat placement by means of a light beam. The milk is automatically sorted, the unit detaches itself, and the cow is released.

Developing Countries

During all these marvels of science in our new world, what about the food supply for people who live in countries less advanced than those where these scientific breakthroughs are happening?

Moe Freeman, of SEMEX Canada, challenged the dairy producers and scientists to develop an animal that is as efficient in converting the elements into food as a plant.

Seventy per cent of the plant's energy and 75 per cent of the plant's protein is lost in conversion to milk, he claimed. Dairy products are competing for market share and to be competitive in the 90s they must be perceived as nutritious, healthy, and cost effective food sources.

Some projects in developing countries were presented such as the FAO Dairy Processing Project in Tanzania, Malawi's Holstein Project done in cooperation with CIDA, Mexico's Prodel Project and USAID's rural technical transfer project in Ecuador. The Tanzanian project centred on small rural coops involved in milk processing. Malawi's project was a medium-sized government farm which sold milk to the plant and heifers to small holders. Prodel is a megaproject involving the creation of a housing development of milking stables with centralized bunker silos and other facilities.

Dr. E.A.C. de Savalia, from Argentina, spoke of the difficulties facing the less developed countries when they attempt entering the international markets. The large dairy-producing countries have a lock on the markets and will not allow new competitors in the skim milk powder, butter, and cheese areas.

Dr. Lucia Pearson de Vaccaro, well known livestock geneticist who is working on an IDRC-sponsored project in Venezuela, addressed the topic of the ideal dairy animal for developing nations. The objective, she said, should be to decrease the hunger, poverty, and indebtedness of the people. Animals should be fed local by-products, tropical forages, and crop residues. This usually results in a low quality and unbalanced ration which does not meet nutrient requirements for milk production. We should forget about high milk production and be content with averages in the 10 litre range where the animals grow and survive. Presenting statistics from her surveys, she stated that the average imported animal leaves only .9 offspring. This means they do not even leave a replacement and explains why five years after an importation of a temperate breed of cattle, it is difficult to find any of the original animals or their de-

scendants. Her premise is that developing countries should concentrate on improving their own local breeds which have been genetically selected for generations to survive in these adverse conditions. The tropical milk cow must be a multi/dual purpose cow. She is biologically more efficient and gives more flexibility to her owner to cope with market price swings. Dr. de Vaccaro concluded that the dual purpose animal is important in Latin America because it satisfies the social and economic characteristics of small farms.

The 23rd International Dairy Congress covered topics from the bold frontiers of science to our starving fellow man who cannot imagine the world that our scientists are envisioning.

¹ Part 1, which was an overview of the Congress by Gloria Sola, appeared in the Fall 1990 issue of The Macdonald Journal.



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Issues in Human Nutrition

Eating Well for Less

by Linda Jacobs Starkey, University Coordinator
Professional Practice (Stage) in Dietetics, School of Dietetics and Human Nutrition



Most budget and health conscious food shoppers would say that they follow the golden rules of food shopping: shop with a satisfied stomach not an appetite, use a prepared list, incorporate specials

and "best buys," select generic and bulk products, and take advantage of seasonal availability. Yet it's not uncommon to hear consumers exclaim on the rising cost of food and, therefore, the family food basket. Are food costs really rising? Every month Agriculture Canada publishes the price of a Nutritious Food Basket and Thrifty Nutritious Food Basket, that is to say, the weekly cost of foods sufficient to meet the nutritional needs of a family of four. How have these costs changed in the past 20 years? What cities have the highest food basket costs? What foods are included in the calculations? These questions are of prime importance as we enter a decade heralded by popular reports of unemployment, homelessness, and economic hard times. Can a family hope to meet their food and nutrition needs on a reasonable budget?

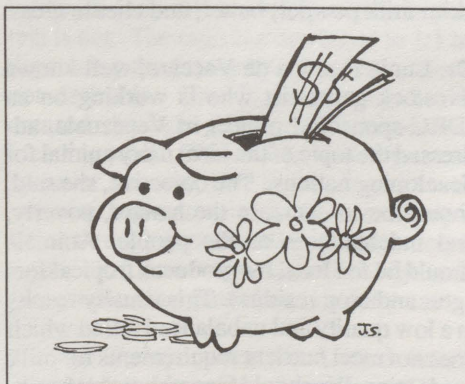
The average family described by Agriculture Canada includes an adult man and woman (age 25-49), a boy 13 - 15 years old, and a girl 7 - 9 years. Their food expenditures as a percentage of disposable income since 1969 look like this¹.

Percentage of Disposable Income

	Food at Home	Food Away From Home	Total Food Costs %
1969	14.57	3.94	18.52
1979	11.72	4.35	16.08
1989	9.67	4.16	13.84

How can food as a percentage of our budget decrease when all we seem to face is a more costly weekly or monthly grocery trip? Other food price determinants are built into calcu-

lated food basket costs and these include exchange and interest rates, energy, labour, transportation costs, and income and expenditures². By monitoring the changes in the cost of feeding a family, the Food Baskets provide professionals and consumers with up-to-date information on the real food cost of meeting the Recommended Nutrient Intakes for Canadians³. These food baskets contain 74 items representative of foods usually consumed across Canada: dairy products, eggs, meat, poultry, fish, meat alternates, cereal and bakery products, fruit, citrus fruit, and tomatoes, potatoes, vegetables, fats and oils, sugars and sweets, and miscellaneous foods including pickles, baking supplies, seasonings, and soup. Because eating patterns of these foods vary by province and city, 18 different baskets each containing the same foods but in differing amounts, are calculated. As Zarkadas reported, this considers that, for example, "families in St. John's, Newfoundland, buy less fluid milk and more evaporated milk than consumers in other cities; Quebec City residents are Canada's highest per capita consumers of peanut butter," and so on³.



Considering all these factors, yes, prices have risen, but as we saw by food as a decreasing part of our disposable income, food costs have not risen as much as we might have guessed. A seven-year comparison of city average retail prices for a few items shows the change:

	1982	1989	Difference
2% Milk	\$.82	\$1.16	\$.34
Eggs (12)	1.30	1.51	.21
Peanut Butter	2.41	2.45	.04
Bread	.88	1.15	.27
Chicken	3.15	4.25	1.10
Carrots	.60	.78	.18

The latest Nutritious Food Basket cost to meet the nutritional requirements of a family of four was \$125.93/week, ranging from



\$116.50 in Winnipeg to \$124.51 in Montreal and \$161.09 in Whitehorse. The Thrifty Nutritious Food Basket averaged \$111.21/week.

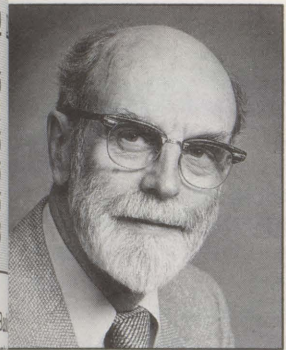
The challenge for the decade: Can you meet the national averages in your food basket spending? Will you eat well for less?

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Fun Fact Fable Fiction

Dr. Ralph H. Estey
meritus Professor, Department of Plant Science



The "C" Scale

Anders Celsius (1701-1744) made a device for accurately measuring temperature. His scale divided the temperature difference between the boiling

water and its freezing point into an even 100 parts, thus making it a centigrade ("hundred parts") scale. In 1948 many scientists agreed to begin referring to it as the Celsius scale.

Wrong Hill

The famed Battle of Bunker's Hill in 1775, the first major battle of the American Revolution, actually took place on Breed's Hill: a hill less than 25 metres high on the opposite side of a bridge from the larger Bunker's Hill.

Wrong Battle

Canadians have been celebrating the Battle of the Boyne on July 12, their so-called "glorious twelfth." However, the Battle of the Boyne took place on July 1, 1690. It was a more decisive Battle of Aughrim that was fought on July 12, a year later.

Anatomy

The Adam's Apple, which is composed of two wing-shaped plates of thyroid cartilage that meet and project at the front of the neck, is larger in men than in women. These plates make up the side walls of the larynx or voice box and are part of the reason men's voices are generally deeper than women's.

Book Burning

Many of us can recall, with a sense of disgust, photos and stories of the Nazis in pre-war Germany burning books. Not so many of us are able to recall the fact that Canadian Customs Officers were burning books at about the

same time. In the 1930s certain books were forbidden entry to Canada. They included such titles as: *Lady Chatterley's Lover*, *Sanctuary*, *Girl on the Make*, *The Gentle Libertine*, *Tobacco Road*, *She Done Him Wrong*, *The Postman Always Rings Twice*, *The Thin Man*, and several others. When Customs Officers seized these books they were required to burn them and to sign witnessed documents that the burnings had been carried out.

Remember These?

Years ago "bossy" was a general name for a cow, "dobbin" referred to a horse, and "tabby" to a cat. Sailors were often called "jack tars" and soldiers were "tommies."

Boy-Girl Talk

Boy: How are you this evening, dear?
Girl: Oh, all right, but lonely.
Boy: Good and lonely?
Girl: No, just lonely.
Boy: I'll be right over.

Air Pollution

The Smoking Hills near the Beaufort Sea are aptly named because their bituminous shale-fires have been producing sulfuric acid-laden smoke for more than 5,000 years. If something is not done to extinguish the fires, they are likely to continue polluting the northern environment for another thousand years.

A Lesson in Sex

A rural school district, trying to be "modern," hired a matronly nurse to go from school to school teaching sex education. She, wishing to be considered avant garde, issued condoms to each of the senior students and, while explaining their use, demonstrated how to put one on by unrolling one on her thumb. She told the boys that they should unroll it as far as possible and ensure it stayed in place during intercourse.

Jane and George, who had been contemplating sex for several weeks, decided to experiment a bit now that George had a condom and knew how to use it. When they had completed their

"experiment," Jane commented on how risky it would have been for her that particular week if he hadn't used the condom. George said he didn't mind using one but couldn't understand what good it did having that rubber thing on his thumb.

Chicory

Chicory was being grown as fodder in Nova Scotia around 1870 when the first volume of the *Nova Scotia Journal of Agriculture* claimed, on page 43, that "no plant will bring so large an amount of fodder per acre, except perhaps Lucerne."

Chicory, also spelled chiccory and sometimes referred to as blue-weed and coffee-weed, is abundant as a perennial weed along roadsides. Its roots may be harvested, dried, and used as a substitute for or as an additive to coffee.

Biblical Soap

Soap is mentioned twice in the Bible: Jeremiah 2:22 and Malachi 3:2. In those days, and perhaps for many decades, soap was made by burning saltwort plants (*Salsola kali*), and using the potash-rich ashes, mixed with olive oil, to produce the soap. Incidentally, the Arabic word for saltwort ashes is "el Kali," from which our word "alkali" was derived.

A New Brunswick Woman

In 1861, Sarah Emma Edmunds of Maguadavic, N.B., served at the Battle of Bull Run during the American Civil War, and became the first Canadian of either sex to receive a pension from the American Army.

Buxom Baynes

A buxom young typist named Baynes at her work took particular pains. She was good at dictations and long explanations, but she ran more to bosom than brains.

Philosophy

He who hesitates is probably smart.

Campus Life

HIC: The 10 Most Popular Questions

by Maria Elena Ruthman, U2
and France Gueretta, Dip III



Reference books at hand, France Gueretta, I, checks the symptoms of a diseased evergreen branch brought into the Horticultural Information Centre while Maria answers one of the hundreds of calls the Centre receives each summer.

For the ninth consecutive year the Horticulture Information Centre (HIC) was manned last summer by Macdonald College students. The HIC is supported by a summer Challenge Grant and provides a much needed service to the community. It also provides valuable public relations and educational experiences for the students. Maria Elena Ruthman was in her second year of the General Agriculture program and France Gueretta in her third year of the Diploma in Agriculture Program. We asked the students to keep track of the 10 most asked questions. Here they are and their answers.

1. When is the best time to trim my hedges and shrubs?

Deciduous hedges and shrubs should be pruned at the end of June or the beginning of July. Fall pruning should be avoided since growth produced subsequent to such pruning is susceptible to winter injury. Dormant pruning is permissible where summer pruning has not been practised.

Flowering hedges and shrubs should be pruned as soon as possible after flowering. Evergreen hedges and shrubs should be pruned in mid-July and cedars at the beginning of September.

2. This spring, my evergreens appear brown and dry. Why?

Evergreens, particularly cedars, are very prone to what is commonly called winter damage.

Such damage is the result of desiccation of the needles due to the effects of cyclical freezing and thawing, wind and/or sunshine. It can also be the result of the application of salt to a nearby road or walkway. Throughout the summer and continuing into the fall, evergreens should be given a thorough watering once every two weeks or so unless rainfall is of sufficiently high levels. Evergreens should be loosely wrapped in burlap during winter.

3. With what and when should I fertilize my trees, shrubs, and flowers?

The fertilizer of choice for such plants is compost or composted (or well-rotted) manure. Such materials supply not only adequate amounts of the macronutrients (such as nitrogen, phosphorus, and potassium); they also supply many of the micronutrients not normally found in a chemical fertilizer. They also serve to increase the moisture-retaining capability of the soil.

Both deciduous and evergreen trees and shrubs should be fertilized in the spring, from mid-April to mid-May. They should be fertilized from once a year to once every three to four years depending on the condition of the soil and of the plant. Compost can be incorporated into the soil each spring before annual flowers are planted as well as around existing perennials.

4. How should I care for my tulip bulbs to ensure a good showing of flowers?

Abundant foliar growth coupled with a lack of flowers can be attributed to overcrowded bulbs. Tulip bulbs should be dug up and replanted at least once every two to three years. Once the foliage has died, the bulbs should be removed from the ground and stored in a warm, dry place. When they are completely dry, remove the roots and clean the bulbs. In September the bulbs measuring at least two centimetres in diameter can be replanted. If bulbs are to be dug up every year, they should be planted 12 to 15 centimetres deep; otherwise, plant them at a depth of 20 to 25 centimetres.

5. How do I establish and care for a new lawn?

The success of a new lawn depends not only on the care given it once established, but also on certain factors present prior to seeding. Before seeding, ensure that the soil contains an adequate amount of organic matter; if not, incorporate some compost, composted manure, or peat moss into the soil. Test the pH (a measure of acidity) of the soil and adjust if necessary to achieve a neutral reading (pH 7.0). Choose a mixture of grass species that is correct for the area to be seeded; for example, choose shade-tolerant species for a shady area. Note that it is sometimes difficult, if not impossible, to grow grass successfully in shady areas, especially if they are situated beneath trees or shrubs. In some cases it may be wise to consider an alternative, such as a shade-tolerant ground cover.

Once a lawn is established, it can be kept vigorous through organic fertilization twice a year (once in the spring and once in the fall), frequent mowing at the prescribed height of six to seven centimetres, and deep watering once a week when rainfall is not sufficient. Excess thatch, a build-up of organic matter that develops between the soil surface and the green growth, should be removed each spring. Moss, mushroom growth, and weeds are all indicative of certain soil conditions; for example, dandelions indicate an acidic soil. Therefore, rather than applying chemicals to alleviate the symptoms, it is wiser and much more effective to correct the problem at the source. Proper pH and good fertility will go a long way towards ensuring a healthy, problem-free lawn.

6. How do I control ants?

Insectigone®, an ecological pesticide, can be used both inside and outside the home. As a powder, it can be placed anywhere that the ants might come in contact with it, such as around the foundation of the house, along baseboards, doorways, window sills, counter tops, and even inside kitchen cupboards. It can also be placed directly inside the ant hills.

pouring boiling water into ant hills will drown any ants present. Ants are also attracted by the honeydew (sugary substance) secreted by aphids; therefore, controlling aphids on the plants around your home may help to control the ant population.

Insecticidal soap, another ecological pesticide, can be used to control aphids. You can keep ants out of your trees by banding the trees with a sticky substance such as Tanglefoot®. Ants will shy away from lines of bone meal, powdered charcoal, talcum powder, chalk, and damp coffee grounds.

How do I control earwigs?

To prevent earwig infestations, turn over the soil in your garden as soon as possible in the spring to expose overwintering eggs and insects. Plant your garden as early as possible.

Outside, spread Insectigone® in their usual hiding places, reapplying after rain. Try constructing an earwig trap such as a rolled-up newspaper or a cardboard tube left outside overnight; tip the unsuspecting occupants into a bowl of soapy water in the morning. Shallow cans or the lids from glass jars may be sunk into the soil in your garden and then filled with beer (this will also catch slugs) or bacon grease. One trap should be used for every square metre of garden, and the traps should be cleaned and replenished each morning.

To control earwigs in the home, once again Insectigone® may be used.

How do I control bees and wasps?

Honey bees, both domestic and wild, and, to lesser extent, bumble bees are essential for the pollination of fruit trees, vegetables, and flowers. Without them there would be no apples on your apple tree and no cucumbers in your garden. Most species of wasps are beneficial. They are parasitic and will, therefore, destroy many insect pests such as caterpillars, aphids, scale insects, and the larvae of many beetles.

Therefore, if at all possible, beehives and wasp nests should not be destroyed. If, how-

ever, removal of the hive or nest is necessary due to its location or to allergies, it is recommended that the nest be cut down and not sprayed. Since this can be dangerous, you may wish to hire a professional.


9. Does an ecologically sound spray program exist for my fruit trees?

Yes, such a program does exist. The one that we have been recommending to the public was taken from the Rodale's book entitled, "Garden Problem Solver: Fruits, Vegetables and Herbs." This spray program makes use of such products as dormant oil spray, lime sulphur fungicide, insecticidal soap, seaweed extract, Bordeaux mixture fungicide, and *Bacillus thuringiensis* (Bt) insecticide.

10. My lilac bushes are not flowering. Why?

There are several cultural practices that should be followed to ensure abundant flower production each spring. Dead flower heads should be removed just below the blossom; if too much of the branch is removed, the flower buds already present will be destroyed which will lead to no flowers being produced the following spring. Suckers at the base of the main trunk of the bush

should be removed since they will take important nutrients away from the shrub. The bush should be pruned periodically to increase light penetration and air circulation. This is important since lilac bushes require at least six hours of sunlight each day if they are to produce flowers. Old wood should be cut back to soil level to allow increased growth of the younger shoots which will produce more flowers. Organic fertilization each spring will encourage both foliar and flower growth. Finally, remember that young lilac bushes (up to about three years of age) produce very few flowers if they produce any at all!



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Reunion 90

Class of '40

Three couples (see photos) from the Class of '40 were at Macdonald last September to celebrate their 50th Anniversary. They received special congratulations from Dean Roger B. Buckland.



James and Jean (Green) Eastman.

President's Report

In his Macdonald Branch Report, President Rick Caron, BSc (Agr) '83, said that there are 14 Reunion Class gifts in progress - most welcome support from the graduates. He said that a highlight of

the year was the excellent initiative shown by the graduating class, coordinated by Jennifer Wells, BSc (Agr) '90. A student phonathon program provided an informed and personal contact with over 1,500 graduates. The Class of '90 Bursary Fund, which was matched dollar for dollar up to \$5,000 by Macdonald, reached \$6,200. Rick Caron said that Macdonald AMF Committee members, class agents, phonathon volunteers, and Reunion Class committees deserve congratulations and recognition by the college for their spirited efforts.

The Future of Food

A successful seminar - guaranteed to wake you up after a Friday night class party - was enjoyed by Macdonald graduates who gathered to hear Professors Robert Kok and Vijaya Raghavan of the Department of Agricultural Engineering discuss "The Future of Food."

Although presented in a lively and amusing manner, Dr. Kok is very dedicated to "insect agriculture" and is extremely concerned about the scarcity of protein, particularly in devel-



Grant and Eleanor (McNutt) Parent.

oping countries. "Using insects you can produce enough protein on a 10-acre plot to alleviate all the protein shortage in the whole world," he emphasized and added, "and in terms of conversion efficiency, insects will out-perform any domestic animal we have. Don't think in terms of insects but in terms of animal material that you can process."

He pointed out that there are millions of species of insects and that 50 per cent or so taste good - and they will eat just about anything, including plastic.

In many parts of the world eating insects is perfectly normal, but they may also be processed. As Dr. Kok said, "When you want to feed somebody something they don't want to eat, you make spaghetti sauce out of it!" He has also used insect larvae in such foods as bread and weiners. He said that June beetles can be turned into oil, grubs into butter: could we help the 10 billion people who are hungry? Could we produce high grade food that we can sell on a large scale? How do you set up an industrial scale plant to produce 100 million tonnes a year? How do we make the products? These are some of the questions Robert Kok is attempting to answer. Insect production: a new area of agriculture that may help to meet world protein requirements.

Dr. Raghavan said that his teaching and research over the years has been in post-harvest technology. "How can I dry a product better? How can I process it better? Food produc-



Dr. Waldemare and Lois (Steele) Sackston.

tion," he said, "has been improved and we have better products and higher yields. What we have not done, however, is make sure that all that is produced is consumed and does not perish. My research is to find better ways to dry a product and to process it."

Using slides, Dr. Raghavan discussed his research in grain drying using particles such as sand as the heat transfer medium. He also discussed silicone membrane-based storage systems for fruits and vegetables and showed slides of the benefits obtained for cabbage, leeks, and other vegetables. He also spoke of his work on the control of post-harvest diseases.

Potential future foods such as kelp, which has a great deal of protein and minerals but also a high water content, need new dewatering technology, and Professor Raghavan is looking at the area of electroacoustics as a new form of post-harvest technology.

There were many questions and hearty applause for both these men who are looking positively at the future of food.

Dean's Reception

Though the day was overcast, the rain held off long enough for afternoon tours of the



The Future of Food's moderator, Dr. Rodger Titman, Associate Dean, Academic, speaker Dr. Vijaya Raghaven, Department of Agricultural Engineering, Richard Caron, Macdonald Branch President, and Dr. Robert Kok, also of Agricultural Engineering.

Morgan Arboretum, the Cattle Research and Teaching Facilities, and the Ecomuseum. These were followed by the well attended Dean's Reception when Dr. Roger Buckland welcomed everyone and said he would be happy to answer any questions that graduates might have concerning Macdonald.

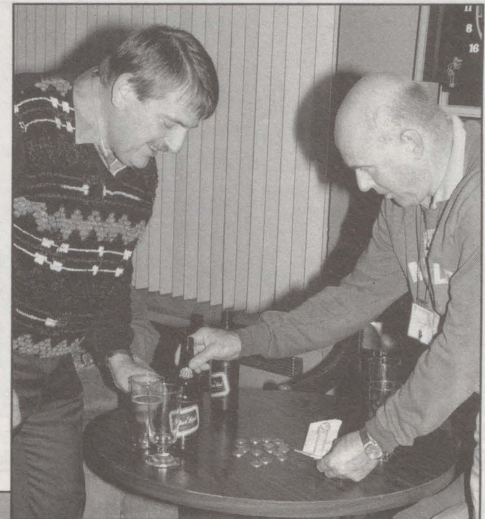
Graduates wanted to know about enrollment, current research, including work on Bovine Somatotropin, and river pollution. Is McGill considering moving any faculties out to Macdonald? A question asked each year: "What is going to happen to Brittain Hall?"

Enrollment is down, the Dean said, but as with other agricultural faculties, we are working hard to bring the figures up. He briefly covered research in the various departments and, in answer to one query, it was suggested that the Fall 1990 issue of the Journal be read for the latest on BST. With budgetary restraints, McGill is not thinking of any physical moves at the moment and, unfortunately, there are no plans for Brittain Hall. "We are still looking for ways to come up with a suitable use for Brittain Hall and for funds necessary to renovate it," Dean Buckland said. In proper Reunion spirit the class of '65 tossed loonies into a pile. Pierre Bergeron left the reception to return shortly with lotto tickets for a drawing later that evening. All proceeds from a winner would have been given to the dean for the renovation of Brittain Hall.



Past President of the Macdonald Branch and Class of '60 Chairman Jean McHarg, centre, received a painting from her fellow classmates in appreciation of all her hard work. The artist, fellow classmate Virginia (Lambert) Mitchell chose the cupola atop the Main Building as the subject of the painting, and Jean is delighted. Virginia Mitchell, l, and Eric Beauchamp made the presentation on behalf of the class during their 30th anniversary dinner.

The Honour Shield was presented to the Diploma Class of '70. Enjoying the barbecue and square dance are, front row, l to r, Peter Denison, Bob Modugno, Alain Senay, John Fregeau, Denis Hatcher, Bob Laird, Malcolm Dickson. Back row, l to r, Gary Cowan, Alex Quinnet, Mike Muldoon, Brian Doherty, and John Crease.



Pierre Bergeron, l, and Grant Colpitts, Class of '65, clear the decks, for the "Save Brittain Hall" cash collected during the Dean's Reception. Unfortunately, the winning lotto ticket evaded them.

Diploma Corner

An Ontario Reunion



Enjoying their Bloomfield, Ont., Reunion were, l to r, Roy Simmons, Lloyd McNair, Gerry Sprigings, Alec McCaig, Stuart Merrill, Bob Taylor, and Keith Rose.

Greta Sprigings kindly sent us the following news of the Reunion last June 16 and 17 when she and her husband Gerry, Dip '38, welcomed the Dip '38s and '39s to their home on Sprigglan Farms, Bloomfield, Ont.

her husband Kyle Blair, Franklin Centre, Que.; Lloyd and Pearl McNair, Bath, N.B.

Three of the '39 class who were at their 50th Reunion were Boyd and Rowena Honey, Kitchener, Ont.; Stuart and Alice Merrill, Barrie, Ont., and Keith and Audrey Rose, Listowel, Ont.

Those who arrived on Friday evening enjoyed a potluck supper, followed by an evening of visiting and a surprise birthday cake for Boyd.

The rest, laden with food, arrived on Saturday. After an afternoon of sight-seeing, visiting antique shops, and strawberry picking, we all met in Wellington at the St. Andrew's Parish Hall where the ACW ladies produced a scrumptious meal.

After an early church service the next day, we met for a steak barbecue with our son, Ron, from Tweed, at the grill. Cards were written to three who had planned to be with us but were unable to because of health: Ralph Edwards, Escuminac, Que.; Tom



Celebrating their 10th anniversary, the Diploma '80s at the Reunion barbecue and square dance: front row, l to r, Carole Trotter, Patricia Wright Payant, Donna Bider Clark, Marina Steiner Templeton, Lois Fowler Bernier, Rudy Erle, Danny Booth, Geoff Small, and Peter Griffith. Back row, l to r, Don Young, Phil Gasser, Martin Kaiser, Ken O'Farrell, William Hayes, Andre Levac, David "Fish" Hall, Callum McKinven, Garry Hamilton, and Neil Richardson.

Of the nine who attended their 50th Reunion at Macdonald College in 1988, six were able to be there with their wives: Bob and Audrey Taylor, Elmwood, Ont.; Roy and Flossie Simmons, Finch, Ont.; Larry and Ruth Mosher, Spencerville, Ont.; Alex McCaig, Ormstown, Que., who was joined by his sister May - '39 Teacher's grad - and



Neil Richardson, President of the Diploma Graduates' Association, and Marcel Couture, Director of the Diploma Program, presented James Barton, Dip '90, with the Farm Project Prize during the Diploma Graduates meeting at last fall's Reunion. The new executive for the Association now is: Past President, Neil Richardson, President, James Duffy, Vice-President, Stephen Latulipe, Member at Large, John Beerwort, and Secretary-Treasurer, Anne Brunet.

Quinnell, Huntingdon, Que., and Jim Hammond, Wakefield, Que.

We were very thankful for the privilege of being together, for the wonderful weather, and for all who helped to make this weekend the success that it was.

Lloyd and Pearl McNair invited all to their home in Bath, N.B. in two year's time, and we are looking forward to that Reunion and any other time that we can all be together.

Lost Dips from the Class of 1941

Hugh Sheridan Baird
John E. Birkett
Joseph W. Bryson
Albert M. Chamberlain
Betty Haydon

Any information, please get in touch with Anne Brunet, Diploma Liaison Officer, Box 204, Macdonald College, 21,111 Lakeshore Rd., Ste. Anne de Bellevue, Que., H9x 1C0.

Book Review

The Honey Bee. A Guide for Beekeepers by DR. V.R. VICKERY, 1991. Published by Particle Press, Montreal, Canada. 240 pages, appendices and 4 colour plates. \$29.95, all taxes included. \$5.00 for postage and handling.)



After years of promising his apiculture students that he would write a thorough and up-to-date text on beekeeping, Professor Vickery has finally found the time to do just that. The result is that with this book beekeepers, students of apiculture, and anyone just interested in learning about the fascinating ways of bees can obtain both the theoretical information about bees and the practical information needed to actually keep bees. Very few books have successfully combined both in such complete fashion, and even fewer have done this from a Canadian viewpoint. Of course, very few people can claim 40 years of experience working as a beekeeper, an apicultural researcher, and a professor of apiculture at the university level.

Overall I found the book to be logically organized and written in a straightforward and easily understood fashion. The text contains considerable information from the literature and from Dr. Vickery's long experience with bees in the different regions of Canada. The first chapter introduces us to the honey bee with a discussion of the history of beekeeping, the races of honey bees, the organization of the bee colony, and a thorough discussion of honey bee anatomy and production. Later chapters present apiary equipment, activities of honey bees, apiary management, honey production and processing, honey bees and pollination, bee diseases and enemies, the "African" bee problem, the economics of beekeeping, and commercial beekeeping. The insights into the techniques for the best management of bees are especially valuable, and many of Dr. Vickery's innovative ideas about equipment, such as a new design of tray feeder and a screened inner cover, are presented.

Many black and white photographs which appear throughout the book are particularly

useful for illustrating specific points. Of course, Dr. Vickery has compiled a terrific slide collection illustrating all aspects of apiculture. A number of tables and line drawings also appear in the book and are quite helpful. A number of useful appendices are provided, including a seasonal schedule for management of an apiary, a glossary of apicultural terms, and a list of additional references.

In any work of such scope one can always find some errors and things to disagree with. Indeed the quality of the book is such that there are very few obvious omissions or mistakes. I do have a different viewpoint with respect to the contentious issue of the feeding of honey to infants. Although I agree that honey is no more dangerous to infants than other foods with respect to infant botulism, I think many would agree that infants do not need any supplements in their formula and the risk of contamination with the spores of the bacteria is lessened by avoiding any supplements, including honey. I also believe the efficacy of treating rheumatoid arthritis with bee venom has largely been discounted

by an epidemiological study of arthritis and beekeepers done at McGill University.

In conclusion, the strengths of this book are that it combines a thorough discussion of the management of bees with just the right amount of theoretical information and presents it in a very readable form. I am sure that many students of apiculture and beekeepers alike will benefit greatly by making this book an important addition to their library on the gentle art of beekeeping.

D. Neil Duffy, MSc(Agr)'79
Biology Department
John Abbott College

Editor's Note: Dr. Vernon Vickery, born in South Ohio, N.S., is a graduate of Macdonald, BSc(Agr)'49, MSc(Agr)'57, PhD'64. He was appointed Curator of the Lyman Entomological Museum and Assistant Professor in the Department of Entomology in 1961. He retired in 1986 and is, at present, Emeritus Curator of the Lyman Museum. Dr. Vickery's book will be used as a textbook at the universities of Manitoba and Guelph.

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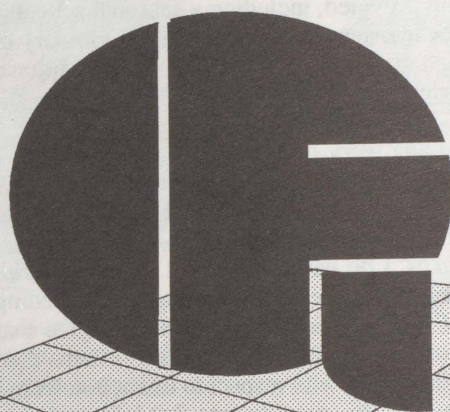
For more information, contact: Anne Brunet, Liaison Officer
Telephone: 514-398-7816



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The Quebec Women's Institutes

ew Provincial Secretary



QWI meeting? No, a QFA meeting! The occasion? Introducing the new QWI Secretary, Micheline Wormell, to members attending the Quebec Farmers' Association annual meeting on November 7, 1990, at Macdonald. From left, Doris Young, President, Stanstead North, Ivy Hatch, Stanstead North, Micheline Wormell, Lorraine Harrison, Ayer's Cliff, Irene Johnston, Stanstead North, and Evelyn Duff, Provincial Agriculture Convener. Also seen during the day's Muriel Duffy, Provincial Citizenship & Legislation Convener.

Micheline Leduc Wormell became the Provincial Secretary of the QWI in July 1990. Born and raised in Montreal, Micheline, a former teacher, is completely bilingual. She and her husband, Geoffrey, who is an engineer, lived in South America for a few years before moving to Beaconsfield. Micheline is extremely interested in crafts; she has been an instructor in various crafts and is, at present, secretary of the Lakeshore Creative Stitchery Guild. She does voluntary work for the Beaconsfield Library, the Victorian Order of Nurses (VON), is a part-time student at Concordia University, and enjoys curling. All this doesn't leave too much time travelling, which she also enjoys.

much Appreciated

In response to our recent request donations have been received from counties, branches, individual members and are much appreciated. Thank you.

is Stevens
Provincial Treasurer

ni-Annual Board Meeting

Twenty-two members attended the semi-annual board meeting, which was held in Montreal on October 23-24, 1990 at the YWCA. One of the highlights coming out of that meeting are: the QWI will have cards avail-

able for families for "In Memorium" donations to either the Frances Taylor Fund or the Service Fund. President Pearle Yates reviewed the QWI financial situation. A motion was made that branches have a special fund raising event to assist with QWI operating expenses. Lucy French reported that Federated News will no longer be printed. A new publication, which will be published in March and September will start in 1991. Quebec may have 10 voting and 13 non voting delegates in the 1991 FWIC Convention to be held in Victoria, B.C. in July. The QWI has been asked for \$65 worth of donations which may be brought to Convention in May. We hope to have the QWI book "Pioneer Women" available for sale in the Adelaide Hoodless Home. The QWI has discontinued plans to invite the FWIC to Quebec in 1994.

The Nominating Committee - Eileen Colton, Laurie Walker, and Jeannine Constantine gave their report for the new slate of officers next May. The QWI Cookbook is now ready for printing. New request forms are being prepared for Abbie Pritchard Throws. Requests should be in the office by February 1, May 1, August 1, and October 1.

CRAFT PLUS Magazine Competition

A new competition to be judged at the annual convention in May. Interested members may submit a weighted doorstop. No limitations have been placed on this competition. All entries must be in the Provincial Office by May 12, 1991.

Scholastic Awards Banquet

Past President Lucy French represented the QWI at the annual Scholastic Awards Banquet held in the Centennial Centre Ballroom at Macdonald College on November 1, 1990. Lucy presented the Frederica Campbell MacFarlane Prize to Diane Jam, a student in the School of Dietetics and Human Nutrition. Diane, who received this award for the second year in a row, said that she will always remember that the QWI encouraged her in

her studies, and she wished the organization a strong future. The award would go towards tuition fees. Diane is considering a career in community nutrition and hopes one day to work in management.

Nathalie Simoneau, also a student in the School, received the Mrs. Alfred Watt Memorial Prize. Nathalie was encouraged to see that her efforts were recognized and said her prize would go towards her textbooks. Nathalie has several thoughts for the future: a hospital dietitian and, after enough experience, to work on her own as a consultant. She is also interested in research and is considering studying for her Masters.

The Quebec Women's Institute Prize went to Diploma student Alex Brand. Alex is from Ayer's Cliff and is familiar with QWI. He told Lucy French that his neighbour's (Ayer's Cliff Branch President Aileen Lord) grandson Bruce is a great friend. Alex plans to return home to the family farm.



Alex Brand, 1, receives the Quebec Women's Institute Prize from WI Past President, Lucy French, at the Scholastic Awards Banquet at Macdonald.

Bonaventure - Gaspé Rally

September 22, 1990, dawned bright and clear as Pearle Yates and Lucy French joined members of Gaspé and Bonaventure counties at the Shigawake-Port Daniel School. After a welcome from Bertha Hayes, President of Bonaventure County WI, we all enjoyed Pearle's Candy Store and the good sports who attempted to buy as well as the two "shelves."

Pearle gave a report of the ACWW Conference in Kansas City. "Women Feed the World" is an ACWW project by which we hope to provide nutritional education in developing countries. Helping students to attend the Coady Institute in Canada is one way to spread knowledge and branch projects help with funding.

Lucy French spoke of ways of conducting a WI meeting and gave hints on keeping the meeting running smoothly. A QWI questionnaire answered over lunch and corrected at the beginning of the afternoon session showed us that we have much to learn.

We had an auction, too, and never have pies, pickles, jams, etc., commanded such prices. Then Black Cape WI presented a thought-provoking skit showing an "old old lady" reliving her life with members portraying her as a young girl, bride, wife, mother, etc. Later Dorothy McNair proved she's far from "old" by making the piano ring to a lively song about WI. The day closed with Pearle presenting a Life Membership to Ethelyn Vautier, and Bertha wished Godspeed and safe travelling to our visitors.

Ethelyn Vautier
Bonaventure County Publicity

Safety First

by Elsie Provost

Farm Safety



Canadians are increasingly concerned about occupational health and safety in farming. Farmers and their families continue to suffer seriously from injuries and diseases. Many people who are

looking for information to stem this tragic toll are not fully aware of the resources available.

The Canadian Centre for Occupational Health and Safety (CCOHS) believes that putting useful information in the hands of farmers and their families is an important prevention strategy. Created by Parliament, in 1978, CCOHS offers a free, confidential Inquiries Service, accessible on a toll free line in both English and French. Information may be had on:

Personal Protective Equipment	Abrasive Wheels
Chemicals	Chain Saws
Safety Programs	Ladders
Farmer's Lung	Powered Hand Tools
Farming & Cancer	Welding
Job Hazards	

It also offers publications on such subjects as: Lyme Disease (bacterial infection spread by infected ticks); Rabies (infectious disease caused by a virus that affects the nervous system); Animal and Vegetable Dusts as a cause of Deep Lung Infection; Q. Fever (disease caused by a bacteria-like microbe that can be found in livestock, some wild animal laboratory animals, and pets, that spreads from animals to people), and Heat Stroke. There is a Safety Infgram on the Safe Operation of Tractors in preparation.

To contact CCOHS you may call, write, or fax: Inquiries Service, Canadian Centre for Occupational Health and Safety, 250 Main St., East, Hamilton, Ont. L8N 1H6 Telephone Toll Free: 1-800-263-8466. Fax: (416) 572-4500

From several safety tips which I have received I am pleased to see that branches are becoming more safety conscious. Here is one received recently: Binned grain may bridge during unloading, making it necessary to break the bridge to start the grain flowing again. An unsuspecting farmer who enters the bin while unloading may sink into the flowing grain and be suffocated in seconds. To avoid such an accident NEVER enter a bin while the unloader is running; instead, install ladders in all bins. If you must enter, tie yourself with a rope and harness and have two extra people available in case something happens: one to hold the rope and one to get extra help if necessary.

More tips from members will be included in subsequent issues. Keep up the good work. Safety - Live With It!

QWI Rally

There were 102 members, one guest speaker and one child attending the area rally which was held in Magog on October 11, 1990. Sheila Needham welcomed the guests and then turned the meeting over to QWI President Pearle Yates. A general discussion of various subjects was held: Handicraft competitions - Elsie Prevost advised on changes in Expo Quebec Competition. Pearle Yates reported on recent trips. Jean Lee reported on recycling workshop in Abercorn. The *Macdonald Journal* and provincial office expenses were discussed.

Mr. Stewart Hopps, a local environment expert, presented a very interesting talk and slide show, which was followed by a question period. Judging by the number of questions interest seemed high in the subject. Norma Jennings presented a gift to Mr. Hopps and expressed our appreciation for his time and for his interest in the environment.

The St. Luke's Anglican Church Guild catered for the lunch which was enjoyed by all. There was discussion on the Townshippers Kit and the Quebec commission. The questionnaires were reviewed and proved to be quite an education for new members. Discussion was also held on FWIC and ACWW. This was followed by the auctioning of jams, jellies, flowers, etc. which had been brought in by members. Pearle was an excellent auctioneer. Members had time for socializing before heading home, satisfied with the day's events.

Beth Champoux
Secretary, Austin WI

"Growing Our Future"

(Condensed from a report by Evelyn Duff and Helen Routliffe.)

Four Provincial Conveners from the QWI Evelyn Duff, Agriculture, Helen Routliffe

education and Cultural Activities, Muriel Duffy, Citizenship and Legislation, Beverly Morrison, Canadian Industries - Lucy French, WI Past President, Pierre Rheume, and Jacques Boucher, Quebec Ministry of Agriculture (MAPAQ) were among the 200 people attending the 3rd National Agriculture in the Classroom (AIRC) Conference in St. John, N.B. October 14-16, 1990. The theme "Growing Our Future" was aimed at increasing the visibility and understanding of agriculture within the educational system.

Speakers from across the country spoke. Among those: Johanne Lemke, Alberta Agriculture Commission, spoke on what is going on in the West. There is a Tour Farm Register, activities for teachers, Adopt-a-Classroom, on farm sharing between elementary classrooms and 4-H members, agricultural students and farmers. There is a summer Agricultural Institute - a 12-day full credit course at the University of Guelph and Teacher Workshops. Joyce Canning, from the Ontario Ministry of Agriculture and Food (OMAF) said Ontario has had an AIRC program since 1984, funded by OMAF. Volunteers have developed such resources as Family Hayride Applets, F.A.R.M. Kit (replicas of farm machinery) with a teacher's manual. Dairy Day, a program for elementary schools organized by country milk committees; Farm Ends: a program to improve communications between the farming community and rural and urban neighbours, and farm tours for teachers and pupils.

Jacques Boucher, in charge of MAPAQ's agriculture awareness program in the schools, expressed concern that many young people do not know where food comes from and how much effort is involved in production. An educational kit has been distributed to all secondary schools in Quebec and contains information sheets, a video "I Eat on the Fourth Floor," giving an overview of Quebec agriculture, slides of a dairy farm, a wall chart showing predominant agriculture regions in Quebec, and an AI straw. The kit will become part of the Secondary III course "The Geography of Quebec and Canada," a mandatory course that will have a module covering agri-

culture and forestry. It is in the process of being translated into English. There are plans to prepare documents for the high School Economics course and a kit for the Biology course.

In elementary schools Quebec Milk Producers have prepared teacher guide books and student workbooks designed to teach children about healthy eating habits. MAPAQ is preparing an instructional guide for a visit to a dairy farm and six video cassettes on agriculture in Quebec. This material will be distributed over the next two years, but it is not known when translation will be ready. Programs will be integrated into existing studies.

Quebec does not have a provincial committee on AIRC that would bring representatives from the private and public sector together. Mr. Boucher believes it would be advisable to have such a committee to coordinate various efforts and initiate joint projects. A team of educational consultants could assist the schools and farms in their projects.

Mr. S.M. Davis, a retired high school principal, said that Ontario's grade 9 has Environmental Science and Agriculture. He stressed the importance of students being aware of Agriculture in the local economy. Professor McEwen from Guelph spoke on Science and Professional Aspects in the 1990s. The industry employs 1.5 million people in Canada which means we have no choice but to meet the challenges of competition because the viability of Canadian agriculture and the continuance of a favourable balance of payments demands the export of agricultural commodities.

Percy Waddy, a Holstein dairy farmer, said "we must never neglect our first duty to earth and water. People must be instilled with a willingness to learn as well as the ability to learn. Mrs. Margaret Norris McCain gave a challenging address with a global perspective stressing the importance of communicating the agri-food industry to our youth. Brian Crouse, student placement officer at the Nova Scotia Agricultural College, spoke on the wide range of career opportunities - a list of over 200 careers has been compiled.

Our challenge is to promote the programs laid out by conference speakers. Attending the conference was rewarding and we thank MAPAQ, and especially Robert Middlemiss, MNA for Pontiac, who was instrumental in providing a grant to allow QWI delegates to attend.

With the Branches

BROME COUNTY reports that Sutton has been working on the CBC Wool Gathering project and distributed 24 lap robes, 64 teddy bears, 8 pairs of mittens, 5 children's sweaters, and 5 bed jackets. Excellent! 75 nosegays - from flowers gathered from their gardens - were made up and taken to residents in Sutton Foyer by members who stayed and visited for awhile.

COMPTON Brookbury's 65th anniversary was celebrated at the Victoria Restaurant in Scotstown. Bury entertained the Sawyerville group and had a lawyer, Mrs. Kouri, speak on women's rights. Sawyerville had a handicraft show, gave the history of needlepoint, and Bargalow cushions. This county has some new members: Please, I would like their names!

MEGANTIC Inverness is working on a quilt which, incidentally, is already sold! Presented Lois Patterson, who is moving to Lennoxville, with a farewell gift. To commemorate World Food Day members motored to Wales Home to serve tea after which they held their meeting. Kinnear's Mills had two young speakers last year: Tiffany Kelso, who was chosen to attend Youth Forum for Young Canadians in Ottawa, and Robin Jamieson, a student chosen to go to the National 4-H Conference in Washington, D.C. At their semi-annual, it was reported Inverness had 13 exhibitors and Kinnear's Mills, six, at the School Fair, and it was decided the 1991 School Fair would be for students only up to and including Grade VI. Members held a "Friendly and Fun" competition when their crafts were judged then auctioned for some extra funds. Publicity is gained in the half-page ad placed in the White Gold Year Book.

Missisquoi Cowansville mourns the loss of longtime member, Rita Phelps, and in her memory,



Missisquoi County President Ruby Sherrer presenting Lilo Bidner with her Life Membership at the County semi-annual meeting.

Pearle Yates with an award as Volunteer of the Year for her work in WI. Donations where made to elementary school for hot lunches, the County Ploughman's Association, and apples to l'Horizon Pour Elle for World Food Day. This branch will celebrate its 80th birthday in January. The building where Dunham held its first meeting in 1911 now houses the local beauty salon, and the WI has been approached to place something on their wall to represent this historical fact. Two members from **Abercorn** WI gave a demonstration on recycling articles. Each Thursday these women will pass their knowledge on to anyone wishing to attend between 1 and 3 p.m. Fordyce donated basket of apples to home for youths. **Stanbridge East** summer's outing was a trip to Parc Safari. They enjoyed a barbecue dinner at a restaurant, walked the Deer Trail, and Elevated Jungle Walkway. They also attended the Theatre in the Woods and enjoyed a comedy production entitled "New Justice," which had a cast of animal actors. Some even took elephant rides! After purchasing souvenirs, members ranging in age from 20s to 80s returned home, slightly tired, to appreciate their "homes" but having enjoyed the "country."

plans to endeavour to keep their branch, which has a small membership, from disbanding for as long as possible. Another member in failing health, Louise Fulford, has recently moved into the Robinson Residence.

Dunham The Town of Dunham presented

MONTCALM Rawdon members were saddened to learn of the passing of Mrs. Violet Asbil at age 93. The branch has 23 members, some of whom visited the opening of the new garbage disposal plant in Chertsey. Paper, glass, and clothes are taken to be recycled and much of the rest goes into compost. This is the only plant of its kind in North America and four municipalities take their garbage there. A scholarship to Shawn Carroll and a bursary to Cindy Pearson was presented at the Joliette High School Graduation ceremonies. Dorothy Budge gave an interesting account of her visit to Eskimo Point and the ways of life in the Far North. Courtesy meals are taken twice a week to 20 seniors who are ill or live alone.

PONTIAC Clarendon helped the Town Council with the municipal beautification project and had a local girl, who is also a seamstress, give a talk on painting on silk fabric. **Fort Coulonge** assisted with the 100th anniversary of its Presbyterian Church.

SHEFFORD Granby Hill Canadian Industry Convener told about a local couple who make wooden toys, dolls, and 3D pictures, and about a diaper business in Adamsville which is helping the environmental situation. Members paid for their own Macdonald Journal. Citizenship Convener told about Nadia Comaniche who, unable to get permission to leave her country, escaped by travelling through 55 km of swampland at night. Today she is supervising gymnastics in Quebec. Members of **Granby Hill** and **Granby West** gathered together for dinner at La Baril restaurant, prior to going to Janet Rutherford's home where they held their county meeting.

SHERBROOKE COUNTY held their meeting at the CLSC. For Remembrance Day, John McCrae's poem "In Flanders Fields" was read and a moment's silence was observed. All branches reported attending special services and wearing poppies. May Povey, who had served in the land army in England during World War II, represented Lennoxville and laid a wreath at the cenotaph. Dorothy Martin of Milby told how one

man preserved against many odds to stage the first ever Remembrance Day parade in Pottimore, Quebec - from erecting the first cenotaph, to importing veterans and getting a band to lead them in parade. All branches gave prizes, bursaries, and scholarships to students at local and regional schools. Members are active in the Wool Gathering Project, and Annie Ingham of Ascot made a record number of items. World Food Day was kept in a number of ways: auction sale of products brought in by members; a phantom auction; filled a sunshine basket for a hospitalized member; a chicken pot pie supper served at a Home, and had a special sale table of excess garden produce, sending the proceeds to Women Feed the World project. **Brompton Road** toured the Bombarde Museum in Valcourt and had the president of Townshippers Association as guest speaker. **Lennoxville** toured Lennoxville printing which taught them more about the work involved in publishing a book and printing posters and pamphlets. **Ascot** made note of the honour bestowed upon ACWW President for Canada, Yolande Calvé, who was one of 29 to receive the Canada Volunteer Award Medal and certificate of honour given by Health and Welfare Canada. All branches made aware of safety through articles and hints read at meetings by various conveners.

Barbara E. Harvey,
QWI Publicity

Welcome: New Members

Mrs. Marion Wright, Mrs. Lois Marshall, and the Rev. Linda Robinson, Inverness, and Mrs. Joan Finnerity, Rawdon.

Congratulations

Margaret Dougall, who recently turned 90 years young.

Life Memberships

Mrs. Mildred Robinson, Inverness; Mrs. Lilo Bidner, Cowansville.

Through the Years

Search of Sir William's Birthplace

Helen R. Neilson
emeritus Professor
School of Dietetics and Human Nutrition



The house Sir William Macdonald built for his brother, John Archibald.

July 1990 I had the pleasure of visiting P.E.I. the guest of Ruby MacNeil, a native islander who obtained a Master of Science degree in nutrition under Dr. Crampton. I wanted to find the birthplace of Sir William Macdonald, and she willingly agreed to accompany me. The search proved to be more difficult than anticipated.

Knowing that he was born at Tracadie, we found Tracadie Cross on the map and went there. A very handsome Catholic church stands at the crossroads with a cemetery opposite. It is practically devoid of markers as most of them seem to have been moved to make it easier to cut the grass. This is all too common practice and it is done at the cost of obliterating much historical data. In one corner of the cemetery we found a small heap of broken markers and among them we could discern the name of Sir William Macdonald. (Upon being knighted, Sir William signed his name with a small "d" and this spelling has been used since.) It was followed by the name John Archibald born June 25, 1825. As I knew to be Sir William's brother, so it was the right district.

Earlier we had stopped at Tracadie and Ruby had gone into a building nearby to ask about the location of the MacDonald property. The women in the building were nuns and were unable to help us but suggested that we should go to see Mrs. Patricia Bradley, a school teacher and historian. We were somewhat hesitant about bothering her, but she was most gracious and told us that the original home of the MacDonalds had burnt in the eighteen hundreds but the house Sir William had built for his brother still stood. She offered to take us to see

it as we would be unlikely to find it since there was no marker anywhere and it stands back from the road.

The original house of the MacDonalds was situated on the shore of Tracadie Bay. The house was burnt but the outline of the foundation is visible. It was replaced by Sir William with a splendid house, which he built for his brother, John Archibald and his large family. The house has been owned for more than 60 years by Mr. Arthur MacKinnon and his brother. Mrs. Ruth Barlow, their sister, lives with them and very kindly showed us over the house. She pointed out that the house had been built to be fireproof, with brick walls dividing the rooms.

Many stories about Sir William Macdonald have become legends, and one of these concerns his action in setting fire to the Main Building at the college before he paid off the contractor. He piled debris in one of the rooms near the front door, set it on fire and went out and shut the door. The room was gutted but the building did not burn. He had stipulated that the buildings were to be fireproof. Earlier the Physics Building on the McGill campus had burned and Sir William had paid for it to be replaced. It has been presumed that this prompted his concern for fireproof buildings at the college. Now it appears to have originated with the burning of his home in P.E.I. at a much earlier date.

The present house on the site is of brick and was obviously built for a very large family

who lived in some style. In the kitchen there is a row of bells which could be rung from the various rooms to summon the servants. The house is flanked by a very large and imposing barn which appeared to be in a poor state of repair. The owner said it leaked badly. There is also a small building with a faded sign: Glenaladale Lodge.

This house, built by Sir William, is of historic value, yet it is unrecognized locally, and Mr. MacKinnon said that he has no family who might continue to live there.

After leaving the MacDonald house, we visited the site of the early French and Scottish Cemetery, 1727 - 1812, located at Scotchfort, overlooking the Hillsborough River. The original stones have all been removed but there is a plinth commemorating John Macdonald, Sir William's grandfather, and the members of his family. It reads, in part: Here lies the mortal remains of John Macdonald, of Glenaladale, esq. a captain in His Majesty's 84th Regiment of Foot who emigrated with his family to this island A.D. 1772, bringing with him a number of his clansmen from the highlands of Scotland.

It would be nice to be able to ensure that the property previously owned by Sir William's family could be preserved and that a roadside plaque would mark the site of his birthplace. He seems to be a forgotten man in Tracadie, despite his tremendous contribution to education in Canada.

THE MACDONALD JOURNAL ENDOWMENT FUND

Recent donations to The Macdonald Journal Endowment Fund have included a gift of \$2,000. Our sincere thanks for that donation and for the others which we have received since the fund was established last year with a \$10,000 donation from a Macdonald graduate. In a relatively short period of time the Fund has grown considerably: proof, indeed, that our readers do care about the Journal and its future. The following people and organizations have made recent gifts.

Rudi Dallenbach
Dr. Robert P. Harpur
Walter Kuhne
Gordon Thomson
West Island Women's Institute

Deceased

AVALON EARL JOHNSON, BSA'29, of Halifax, N.S., on November 29, 1990. Mr. Johnson, who was 83 at the time of his death, had a long and distinguished career. He was president and owner of Maple Leaf Dairy and vice-president of the National Dairy Council of Canada. He was president of the Red Cross Society, president of the Halifax YMCA, and a member of many other organizations. He was also an ardent horseman and was a charter member and honorary life director of the Canadian Equestrian Federation and an honorary member of the Nova Scotia Equestrian Federation. He was a director and past president of the Maritime and Atlantic winter fairs. (Our thanks to Bill Ritchie, BSc[Agr]'51, for sending us this information.)

LESLIE W.H. VERCOE, Dip'33, in Toronto, Ont., on May 21, 1990.

KATHERINE (FALK) MARTIN, BHS'35, of Baie d'Urfe, Que., on January 6, 1991. Kay was a Sessional Lecturer in the School of Food Science from 1960 to 1979.

CLARENCE STEVENSON, Dip'38, of Dunrobin, Ont., in 1989.

ROBERT MILLER, Dip'41, in Zimbabwe on June 22, 1990.

JOHN G.A. FISKELL, MSc(Agr)'49, PhD'51, of Gainesville, Florida. No further information.

DR. GORDON BURTON, of Claresholm, Alta., in 1990. Dr. Burton was on staff in the

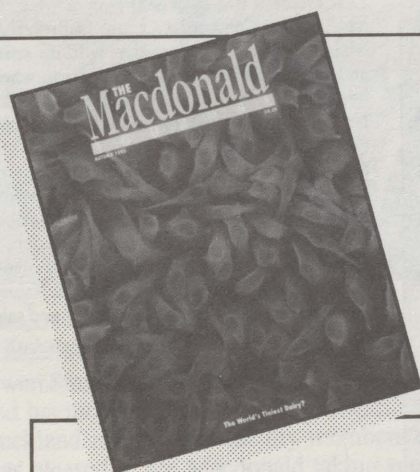
Department of Agricultural Economics from 1947 to 1951.

Coming Events

Bucks for Pups: Mark May 11, 1991, on your calendar for the next annual Bucks for Pups concert. An auction will take place before the concert in the Deep End of the Centennial Centre at Macdonald College. Auction over the music begins in the C.C. Ballroom.

The sun will shine on June 7, as graduates family and friends gather for Convocation.

The Northeast Agricultural/Biological Engineering (NABEC) Conference will be held at Macdonald July 21-24, 1991. The theme of the Conference is "Food Systems on Tightrope."



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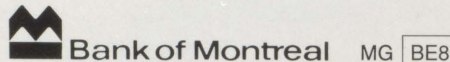
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Home Mortgaged By	Estimated Value \$	Mortgage Amount \$	Amount Owning \$	Maturity Date
Make of Automobile	Year	Province	Driver's License Number	

The undersigned or each of them, if more than one, certifies the information furnished in this application to be true and correct, requests a Bank of Montreal MasterCard affinity card and renewals or replacements thereof from time to time at the Bank's discretion, requests a Personal Identification Number (PIN) in order to allow use of the card in Bank of Montreal Instabank units and, if available, other automated banking machine systems, requests the services available from time to time to holders of Bank of Montreal MasterCard affinity cards and understands that separate agreements or authorizations may be required in order for the undersigned to obtain or benefit from any such service and acknowledges that some of the services are supplied by firms independent of Bank of Montreal and Bank of Montreal assumes no liability in respect thereof. BY SIGNING BELOW ACCEPTS AS NOTICE IN WRITING OF AND CONSENTS TO THE OBTAINING FROM ANY CREDIT REPORTING AGENCY OR ANY CREDIT GRANTOR SUCH INFORMATION AS THE BANK MAY REQUIRE AT ANY TIME IN CONNECTION WITH THE CREDIT HEREBY APPLIED FOR; consents to the disclosure at any time of any information concerning each of the undersigned to any credit reporting agency or any credit grantor with whom any of the undersigned has financial relations; if a card is issued, agrees to abide by the terms and conditions of the Bank of Montreal MasterCard affinity card Cardholder Agreement accompanying the card. If an additional card is requested in spouse's name, each of the undersigned agrees to be jointly and severally liable for indebtedness incurred through use of cards issued and authorizes, through use of such cards, deposits to and withdrawals from Bank accounts designated by either of the undersigned. **This card is only available to Canadian Residents.**
APPLICABLE IN PROVINCE OF QUEBEC ONLY: It is the express wish of the parties that this agreement and any related documents be drawn up and executed in English.
Il est la volonté expresse des parties que cette convention et tous les documents s'y rattachant soient rédigés et signés en anglais.

Signature of Applicant	Date	Signature of Spouse if additional card required	Date
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